

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 634.—Vol. XVII.

LONDON, SATURDAY, OCTOBER 16, 1847.

[PRICE 6D.]

IMPORTANT SALE OF MINING MATERIALS.

MR. JOHN GOULD begs to inform the public, that he has received instructions to **SUBMIT TO COMPETITION**, on Wednesday, 27th October, all the new and valuable **MATERIALS AND MACHINERY** on **EAST COOMBE MINE**, in the parish of SWYMBRIDGE, DEVON, on such conditions as will be then and there produced—consisting of

A **WATER-WHEEL**, nearly new, 36 feet by 4; about 10 fathoms of 12-inch pumps, plunger lift, with door-piece, hatch-piece, stuffing-box, working case, and bottom, complete, shaft casing, &c.; 10 fathoms main-rod and plunger pole; 60 fathoms flat-rod, pulleys, shaft, and 7-1/2 inch, complete; 10 fathoms 9-inch pumps, door-piece, working case, and windbore; 10 fathoms main-rod, casing, &c.; 1 drawing lift, with 9 1/2 inch pumps, 9 feet long; working barrel, clack doorpiece, and windbore; 1 drawing lift, with 4 9-inch pumps, 9 feet long; working barrel, windbore, and clack doorpiece; 1 6-inch shears, 40 feet high, with sheaves, complete; 3 cast-iron, an excellent new horse wheel, 4 horse-whim kibles and pulleys; 3 whin ropes (4-inch, single laid), 90 fathoms each, about 30 fathoms launders, with stands, &c.; smith's shop, 1 40-inch smith's bellows, anvils, vices, and a quantity of smith's and miners' tools, about 10 cwts. of pick-iron, about 3 tons of waste iron, fit for mining purposes, screw, stocks, taps, and plates; several miners' chests, several bundles of hoop-iron, tackle rope, grinding-stone, &c.; 1 ditto jiggling sieve, with other dressing door materials; a quantity of red pine and other timber, fit for mining purposes, with wheelbarrows, shovels, weighing machine, COUNTING-HOUSE FURNITURE, &c.

The whole will be offered **IRON LOT**, or separately, to suit the convenience of purchasers. Sale to commence at Ten o'clock in the forenoon.

Dated Barnstaple, Oct. 11, 1847.

EXCELLENT STEAM-ENGINE, of 85 inches cylinder, FOR SALE, suitable for Mines, Collieries, Water-Works, &c.—FOR SALE, at TRENEW CONSOLES MINE, near MARAZION, CORNWALL, at a very moderate price, a powerful STEAM-ENGINE, of 85 inches cylinder, 10 feet stroke—equal beam, of the best construction, and in perfect working condition—having been used for a comparatively short period, and will be sold with, or without, boilers.

Also, TWO BOILERS, together 25 tons, nearly new, and numerous MINING MATERIALS, well worthy of attention.

Application to be made to the agents, on the mine; or to Mr. Henry Thomas, Mining Offices, 8, George-yard, Lombard-street, London.—Oct. 14, 1847.

ELIGIBLE INVESTMENT.—It is proposed to form a small JOINT-STOCK COMPANY, for the purpose of PURCHASING some well-known IRON-WORKS, in one of the NORTHERN COUNTIES, which are most advantageously situated, within a mile from a port of shipment, and with a railway passing close to the works. The manufacture of iron, from mineral of the richest kind, found in large quantities on the adjacent property, has been hitherto carried on; and peculiar advantages are now offered to increase the trade, and which may be effected at a very small outlay of capital.

For further particulars, apply (by letter) to Charles Gardiner, solicitor, Old Jewry Chambers, London.

WALL'S END COLLIERY.—TO BE LET, and entered upon on or after the 20th November next, for such a term of years as may be agreed upon, all that current-going COLLIERY, well known by the name of WALL'S END COLLIERY, at present held by William Russell, Esq., under lease from the Dean and Chapter of Durham—comprising the COAL MINES under the whole of the lands in the township of WALL'S END, in the county of Northumberland.

The Low Main and the Beaumont Seams, which have been bored to, remain throughout untouched; and the Beaumont Seam supplies the vent of the existing colliery.

The colliery is contiguous to, and has shipping berths in, the River Tyne. Plans of the workings of the colliery, and further particulars, may be known on application to Mr. E. F. Boyd, Urpeth Colliery, Chester-le-Street; or at the office of the Registrar of the Dean and Chapter of Durham, Durham.

Durham, Sept. 11, 1847.

TO LET, THE MINERALS IN THE LANDS OF FAULDHOUSE, parish of LESMABAGOW, and county of LANARK, consisting of BLACK-BAND and CLAY-BAND IRONSTONES, COAL, and OTHER MINERALS. These minerals, to the extent of about 500 acres, are situated in the most valuable portion of the Douglas and Lesmabagow Mineral Basin, and will be completely opened up by the railway already authorized, and in course of construction. The minerals in a portion of the immediately adjoining are already let, opened up, and in active operation; and their value; whilst the large fields in the neighbourhood, still unopened, above well worth the attention of ironmasters and capitalists.

Apply to John Smith, Esq., writer, Lanark; the proprietor; or James Ferguson, Esq., Auchincloss, Lesmabagow, respecting the terms of lease, and other particulars. Auchincloss, Sept. 10, 1847.

TO BE LET, THE PARK-HILL MINES, DEAN FOREST, GLOUCESTERSHIRE—containing ONE MILLION TONS OF COAL, and ONE MILLION TONS OF RICH IRON ORE, which, being calcareous, smelts well with argillaceous ironstone, and may be delivered in large quantities to the Staffordshire, Shropshire, and Welsh iron-works, at a price far below the cost of local ironstones. The mines are drainable by level, and can be opened at a trifling expense; and, were blast-furnaces erected, their produce might be smelted on the spot into excellent iron.—Apply (post paid) to Henry H. Fryer, Esq., solicitor, Coleford, Gloucestershire.

FOR SALE, A 70-inch cylinder ENGINE, without boilers.—For price, and further particulars, please apply to Samuel Grose, Esq., engineer, Wall, Glamorgan.

STEAM-ENGINES.—From 8 to 20-horse power ENGINES ALWAYS IN STOCK. Apply to Mr. CAPPER, Engine-Maker and Founder, BIRMINGHAM. Price—£12 to £16; with boiler, £22 per horse.

STRONG MIXING PIG-IRON.—The YSTALFYFERA IRON COMPANY beg to solicit ORDERS for their ANTHRACITE PIG-IRON. This iron mixes well with Scotch pig—imparting to it strength and elasticity, and receiving from it a portion of its softness and fluidity. No 3 Pig is recommended for mixing with soft iron—Nos. 1 and 2, for machinery castings, requiring great soundness and strength. At this period, when cast-iron is so much employed in the construction of bridges and other buildings, requiring all the strength and elasticity which the best mixture of metal will afford, it may be interesting to call attention to the characteristics of ANTHRACITE PIG-IRON, as ascertained on by that great practical authority, the late DAVID MURPHY, Esq., M.L.C.E.—

"It greatly exceeds, in strength, in defective powers, and capacity to resist impact, any iron at this time manufactured in the United Kingdom."

"It now only remains for me to mention a property peculiar to this iron, which was noticed at the time I made the trial experiments, four years ago, but which has been more fully developed in those more recently made. The property referred to is one of great springiness, or elasticity, which communicates a tendency to the bar, in deflecting and breaking, to resume its rectangular form. Bars that had obtained a permanent set of 2-10ths, when afterwards broken, presented but a slight deviation from a right line; and in no case, did the curvature exceed one-fourth of a tenth."

"It was also remarked, that most of the fractures, in breaking, presented a regularity of grain throughout, resembling the structure of unhardened steel."

Address THE YSTALFYFERA IRON COMPANY, Near NEATH, SOUTH WALES.

HOT-BLAST WITHOUT COAL, LABOUR, OR REPAIRS. DIXON AND BUDD'S PATENTS. Apply for particulars, or to inspect the process in operation on six blast-furnaces, to J. Palmer Budd, Esq., Ystalffyfera Iron-Works, near Neath. Dated June 23, 1847.

ADCOCK'S PATENT SPRAY PUMP.—This important INVENTION having been PERFECTED, and brought into SUCCESSFUL PRACTICAL OPERATION at LEANHIDDEL, at pits belonging to R. J. Blewitt, Esq., M.P., Llantarnam Abbey, near Newport, Monmouthshire, the PATENTEE is ready to RECEIVE, and to execute, ORDERS.—Apply to Henry Adcock, C.E., at his office, 187, Strand, London, where pamphlets, descriptive of the invention, may be had; at the office of the Mining Journal, 36, Fleet-street; and through any respectable bookseller—post paid.

ASSAYING AND ANALYSIS.—MR. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTURERS, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY, 23, HAWLEY-ROAD, KENTISH TOWN, LONDON, to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

VIADUCTS AND OTHER RAILWAY WORK.—The attention of Railway Engineers, Architects, and Contractors is particularly directed to the great advantages to be derived from the application of BEYSEL ASPHALTE, as the only impervious and permanent covering for arches and roofs, and lining of reservoirs, gutters, &c. The arrangements of CLARIDGE'S PATENT ASPHALTE COMPANY enable it to execute works of any extent with the greatest promptitude.

In order to guard against the use of spurious materials, it is important that all applications for works to be executed be made direct to this company; and, as a further protection, it is suggested that Engineers, Architects, and Contractors, should require a CERTIFICATE from the company that the proper description of material has been used.

Information may be obtained as to all works which have been executed by the company since its establishment in 1836, which will prove that the failure of many works represented to have been done with the genuine material has resulted from the substitution of a spurious one.

I. FARRELL, Secretary, Beysel Asphalt Company, Stangate, London.

IMPORTANT TO RAILWAY AND STEAM NAVIGATION COMPANIES, MANUFACTURERS, AND ENGINEERS.

W. BROTHERTON AND CO.'S PATENT LUBRICATING FLUID (or Animal Oil) FOR ALL DESCRIPTIONS OF MACHINERY.

W. B. & CO. have the pleasure to state, that the above article is extensively used in Her Majesty's Steam Navy, and by several of the principal Steam Navigation and Railway Companies, and is pronounced by them, and by the first practical engineers of the day, to be far better adapted for the purposes of lubrication than any other article hitherto used for such purposes. The Patent Lubricating Fluid is equally applicable for the most intricate and fine pieces of machinery, as for the heaviest bearings of the steam-engine. It is cheaper, much more economical, and cleaner than oils at present in use; it is free from smell, and calculated to effect a vast saving in the expenditure of working steam power.

Further particulars can be had, and testimonials seen, by application to the manufacturers, W. BROTHERTON & CO., Hungerford Wharf, Strand, London.

N.B.—The above article will burn in lamps, and give a light equal to the best sperm oil.

BY HER MAJESTY'S LETTERS PATENT.

FULLER AND DE BERGUE'S VULCANIZED INDIA-RUBBER BUFFERS AND BEARING SPRINGS FOR RAILWAY CARRIAGES.

The PATENTERS of this NEW and IMPORTANT INVENTION beg to announce to Engineers, Carriage-builders, and Railway Companies (especially those constructing new lines), that they have now completed their arrangements for SUPPLYING the VULCANIZED INDIA-RUBBER BUFFERS AND DRAW-SPRINGS, for Passenger-Carriages, Waggon, Cattle-Carriages, Engines, Tenders, &c., and are prepared to execute Orders to ANY EXTENT.

On several of the principal Lines these Buffers have now been tried for many months past, under very able superintendence, and with decided success. The patentees, therefore, feel justified in stating, that they are prepared to furnish not only a more efficient Buffer than any hitherto in use, but on terms which will effect a considerable saving to Companies in the first outlay.

Specimens of the various kinds of buffers and draw-springs may be seen, and prices obtained, on application at their offices, No. 9, Arthur-street West, London-bridge, or at their depot, No. 2, David-street, Manchester.

The patentees will also be happy to furnish full information to all communications by letter, together with drawings of the best mode of application.—The attention of Locomotive Engineers is particularly invited to their BEARING SPRINGS FOR ENGINES and TENDERS, the recent trials of which have proved most successful.

FLEXIBLE HOSE-PIPES FOR LOCOMOTIVE ENGINES, RAILWAY CRANES, FIRE-ENGINES, GAS, &c.

PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES AND TUBING OF EVERY DESCRIPTION.

These pipes are made to stand hot-water without injury, are very superior to leather pipes, or the common India-rubber pipes; and, as they do not become hard or stiff in the lowest temperatures, or require any application when out of use, are particularly well adapted for fire-engines.

FLEXIBLE TUBING, of every description, for gas, chemical purposes, &c. VULCANIZED INDIA-RUBBER WASHERS, all sizes, for steam and hot-water joints, &c.—Sole manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

ELECTRIC TELEGRAPH COMPANY.

LONDON, 345, STRAND, September 1, 1847.

COMMERCIAL TELEGRAPH. The works of this company for commercial communications, between the places enumerated below, under the SYSTEM OF TELEGRAPHS FOR COMMERCIAL PURPOSES only, and distinct from that reserved for the special use of railways, being so far advanced as to admit of their completion by the commencement of the coming year, the directors think that the time has now arrived, when it becomes their duty to make known the arrangements which they contemplate for the accommodation of the public.

STATIONS WILL BE OPENED, in central situations, in the PRINCIPAL TOWNS, whence MESSAGES and DISPATCHES will be FORWARDED TO, and RECEIVED FROM, all the OTHER STATIONS of the ELECTRIC TELEGRAPH COMPANY.

In order to give to Merchants, Bankers, Manufacturers, and all connected with trade, the greatest possible amount of information, a ROOM will be RESERVED in each of the COMPANY'S STATIONS for SUBSCRIBERS, in which will be received, tabulated, and exhibited, all Intelligence of Commercial or Public Interest—for instance:

SHIP LISTS, from the various Ports. SHARE LIST, from the various Exchanges. PRICES CURRENT. STOCK EXCHANGE LIST. CORN MARKETS, from the various Towns. PRICES OF LIVE STOCK, &c. &c.

In LONDON, a CENTRAL STATION, suited to the importance of the metropolis, is in COURSE OF ERECTION, in the immediate vicinity of the Bank and Royal Exchange; in this Station the whole TELEGRAPHIC NEWS of the COUNTRY will be CONCENTRATED, and the OTHER STATIONS of the ELECTRIC TELEGRAPH COMPANY. And here, as in other towns, ROOM will be RESERVED for SUBSCRIBERS.

The SUBSCRIPTION to these ROOMS will be TWO GUINEAS per annum, paid in advance, which will entitle SUBSCRIBERS to the RIGHT OF ENTRANCE to ALL the SUBSCRIPTION ROOMS of the COMPANY—including the Central Station at London. The foregoing details some of the advantages of the Commercial Telegraph to subscribers; but the requirements of the public in general will be provided for by the establishment of offices, which will at all times be open for the reception and transmission of messages, and the dispatch of telegrams will be kept at the various stations, by whom dispatches may be sent out to any part of the town where the communications have been received by Telegraph at the Company's Station.

Subscribers' Names are received at the Commercial Telegraph Office, where any further information may be obtained.

The following are the Towns to which the Commercial Telegraph will be first extended:

London	Chester	Southampton	Derby	Darlington
Margate	Liverpool	Winchester	Nottingham	Newcastle
Ramsgate	Rotherham	Dorchester	Lincoln	Berwick
Dam	Barnsley	Bristol	Chesterfield	Edinburgh
Dover	Wakefield	Gloucester	Sheffield	Glasgow
Folkestone	Leeds	Cheltenham	Bradford	Scarborough
Canterbury	Hull	Peterborough	Walsbrook	Bridlington
Northampton	Rochdale	Yarmouth	Lowestoft	Stamford
Coventry	Hull	Huntingdon	Cambridge	Norwich
Birmingham	Malden	Hertford	Chelmsford	St. Ives
Wolverhampton	Tonbridge	Manchester	Ipswich	Ware
Stafford	Gosport	Leicester	York	Colchester

J. LEWIS RICARDO, Chairman.

THAMES ECONOMICAL STEAM-BOAT COMPANY.

(REGISTERED PURSUANT TO ACT OF PARLIAMENT.)

ESTABLISHED ON THE PRINCIPLE OF CHEAP AND EQUALIZED FARES.

Capital £40,000, in 8000 shares, of £5 each.

On which £2 per share will only be called until after a meeting of the shareholders, approving of a further call to extend the operations of the company.

No call to exceed 10s. per share.

The shares may be paid by small instalments.—vide Prospectus.

Each shareholder to receive a bonus of free passage.

Tickets to the full amount of paid subscription.

The object in promoting this company is to provide for the public a safe and economical steam communication from London-bridge to Chelsea, Battersea, &c., and from London-bridge to Greenwich, assisted by all the advantages which improved science can suggest.

The company will run express boats morning and evening.

A considerable portion of the shares having been subscribed for, application for the remainder may be made at the offices of the company, 134, Upper Thames-street; or to the solicitor, 47, Bedford-row, where prospectuses and plans may be obtained, and every information furnished.

By order of the board, J. BECKET.

THE PATENT OFFICE AND DESIGNS REGISTRY.

No. 210, STRAND, LONDON.

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years' experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

SIR JAMES MURRAY'S FLUID MAGNESIA.

Prepared under the immediate care of the inventor, and established for upwards of 30 years by the profession, for removing BILE ACIDITIES, and INDIGESTION—restoring APETITE, procuring a moderate state of the bowels, and dissolving uric acid in GRAVEL and GOUT; also as an easy remedy for SEA SICKNESS, and for the febrile affection incident to childhood it is invaluable. On the value of Magnesia, as a remedial agent, it is unnecessary to enlarge; but the fluid preparation of Sir James Murray is now the most valued by the profession, as it entirely avoids the possibility of those dangerous concretions usually resulting from the use of the article in powder, and in the over-dosed liquids or solid preparations.—Sold by the sole consignee, Mr. Bailey, of North-street, Wolverhampton; and by all wholesale and retail druggists and medicine agents throughout the British Empire, in bottles, 1s., 2s., 6d., 3s., 6d., 11s., and 21s. each.

The Acidulated Syrup, in bottles, 2s. each.

N.B.—Be sure to ask for "Sir James Murray's Preparation," and to see that his name is stamped on each label, in green ink, as follows:—"James Murray, Physician to the Lord Lieutenant."

LONDON AND SOUTH-WESTERN RAILWAY.—The directors of the LONDON AND SOUTH-WESTERN RAILWAY COMPANY wish to RECEIVE TENDERS for SINKING an ARTESIAN WELL, on the company's premises, at Nine Elms.—Tenders to be addressed to the secretary, and to be delivered at this office, before Ten o'clock, on Friday, the 29th inst. By order, Nine Elms, Vauxhall, Oct. 13, 1847. P. LAWRENTZ CAMPBELL, Secy.

TO RAILWAY ENGINEERS AND SECRETARIES.

Any GENTLEMAN, in either of the above capacities in the kingdom, NOT already FURNISHED with a DESCRIPTION of our ELECTRIC TELEGRAPH, shall, on intimating the same, have ONE FORWARDED by post. BRETT & LITTLE, Furnival's Inn, London.

IRON FOUNDRY TO SELL, OR LET, IN MONTROSE.

—TO BE SOLD, OR LET, as may be agreed on, the LINKS FOUNDRY OF MONTROSE, along with STEAM-ENGINE and TOOLS necessary for a local trade.—Apply to D. Y. Stewart.—Montrose, October, 1847.

TO IRONMASTERS—BLOWING-ENGINE FOR SALE.

—A CONDENSING ENGINE, steam cylinder, 30-inch diameter; blowing cylinder, 52-inch diameter; length of stroke, 7 feet; in good order—has been worked four years.—Apply to Mr. Joseph Bowman, Fenchurch, near Lilley, Swansea.

TO IRONMASTERS AND OTHERS.—TO BE SOLD,

BY PRIVATE CONTRACT, a very powerful BLAST-ENGINE, with a 34-inch steam cylinder, and 100-inch blowing cylinder. Also, a 50-inch and 56-inch STEAM CYLINDERS, and a very strong CAST-IRON BEAM, suitable for a water-engine. For the price and particulars, apply to Mr. John Pugh, Parkfield Iron-Works, near Wolverhampton.

WANTED, FOR NEW SOUTH WALES, an intelligent and

experienced MINE AGENT—one well acquainted with mineral formations, and the strata in which they are generally found—who could undertake to explore a new district of country where mineral deposits are supposed to exist, and to determine, from surface indications and otherwise, the particular locality in which mining operations would be likely to prove successful; and who would be able to direct all the necessary labour, underground and at grass, of an extensive mine—should such an one be established. He will, probably, be accompanied by a dozen of Cornish miners. Salary not less than £200 for the first year.

Applications (if by letter, post-paid) to Richard Boot, mine broker and general agent, Redruth.—Dated 10 mo. 5, 1847.

MINING OFFICES—ESTABLISHED THIRTEEN YEARS.

WILLIAM TRENEER begs to inform his friends and the public, that he has REMOVED from No. 59, Threadneedle-street, to No. 9, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.

MR. R. TREDINNICK, MINING AGENT AND DEALER

IN EVERY DESCRIPTION OF SHARES. THREE KING'S COURT, LOMBARD-STREET, LONDON.

MINING OFFICES, 1, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.

WATSON AND CUELL, MINE AGENTS. N.B.—STATISTICAL INFORMATION furnished (on application) to SHAREHOLDERS in MINES in Cornwall, Devon, Scotland, Ireland, Wales, and Spain.

WILLIAM H. SMITH, MINING SHARE AGENT,

10, WARFORD-COURT, THROGMORTON-STREET, LONDON.

WILSON & FRASER, 2, WELLINGTON-BUILDINGS,

LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAINS, and RAILWAY BARS.

JAMES LANE, MINING SHARE DEALER,

75, OLD BROAD-STREET, LONDON.

BRITISH MINING OFFICES, 41, MOORGATE-STREET,

LONDON.—and 4, STAMP-OFFICE BUILDINGS, MANCHESTER.

PROSPECTUSES may be had, and SHARES obtained, in the SILVER-LEAD and COPPER MINES connected with these offices, on application to the secretaries, at London or Manchester. T. H. LAUNTON, London. W. SHEARMAN, Manchester.

ORIGINAL REGISTRY OFFICE, FOR THE SALE AND

PURCHASE OF MINING SHARES. No. 28, THREADNEEDLE-STREET, LONDON.

CROSSMAN, SOMMERS, AND CO., AGENTS. SHARES FOR DISPOSAL.

Devon and Courtenay Consols	Towleway
East Birch Tor	South Wheel Sophia
New East Crowndale	Wheel Susan
East Wheel Rough Tor	Wheel Ann (Bridford)
North Wheel Camel	Wheel Barbara
Great Wheel Rough Tor	&c. &c. &c.

MONEY.—MESSRS. WINSTANLEY & CO., Sharebrokers,

inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposits of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES; at much less commission than usually charged. 6, Bank Chambers, opposite the Bank of England.

ALTEN MINING ASSOCIATION.—The directors of this

association hereby give Notice, that a GENERAL MEETING of the shareholders will be HELD at the offices, Winchester-house, 53, Old Broad-street, on Friday, the 23d day of October inst., at One Two o'clock precisely, for the purpose of receiving the report of the directors, and a statement of the financial accounts, to the 31st March last. The accounts will be at the office, for the inspection of the shareholders, three days previous to the meeting.—Dated this 1st day of October, 1847.

By order of the board, EDWARD J. COLE, Secretary.

TAMAR SILVER-LEAD MINING COMPANY.—Notice is

hereby given, that the ANNUAL GENERAL MEETING of the shareholders in this company will be HELD at 44, Finsbury-square, on Thursday, the 21st day of October next, at Two o'clock precisely.—London, Sept. 25, 1847.

TRELEIGH CONSOLIDATED MINING COMPANY.—

A DIVIDEND, being the third, of SIX SHILLINGS per share, or 5 per cent. upon the paid-up capital, has this day been declared, PAYABLE on Monday, the 11th October inst., and on every succeeding Monday, between the hours of Eleven and Three o'clock. The coupons, with a list, according to a form, which may be obtained at the office, must be left for examination three clear days previous to payment.

57, Old Broad-street, October 6, 1847. WM. NICHOLSON, Secretary.

GREAT SOUTH TOLGUS MINING COMPANY.—

NOTICE.—Notice is hereby given, that the following REGULATION was unanimously passed at a General Meeting of the adventurers, held on the 30th ult.—viz.:

That no subdivision of any share shall be permitted, nor shall any fraction of any share be transferred; but that, in case of transfer of any share or shares, the transferee, or transferees, shall send, or give, to the secretary or directors of the company, at the offices of the company, a written, or printed, memorandum or notice of such transfer, and of his or their acceptance thereof—which notice shall be under the hands of both seller and purchaser, and shall state their respective names and places of residence at length, with the number of shares transferred. The transferee shall, at the same time, produce the scrip, for the purpose of endorsing such transfer thereon; and shall also, at the same time, pay all costs, or calls, then due on such shares; and, in default of strict compliance with this regulation, no transfer shall be valid, either at law or in equity, nor shall the same be in any way recognised by this company.

It was also resolved—That the scrip certificates of the company shall have the foregoing regulation endorsed thereon, and that all scrip certificates now in circulation be forthwith returned to the directors, in order that the same may be cancelled, and others, with such endorsements, reissued in their stead; and that all scrip certificates not so returned to the directors, within one month from this date, shall be forfeited, and that the mine be henceforward called "WHEAL BULLER MINE."

Notice is hereby given, that a CALL of ONE POUND per share has been this day made on each share, and that the same must be PAID, on or before the 1st day of November next, to the credit of the company, at Messrs. Glyn, Halifax, and Co.'s, bankers, London; or at the Borough Bank, Liverpool.

By order of the board, G. YATES, Secretary.

PATENT IMPROVEMENTS IN CHRONOMETERS,

WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT to the Queen and His Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1840, 1842, and 1843. Silver lever watches, jewelled in four holes, 6 gu. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 6 gu. to 12 gu. each.

DENT'S PATENT DIPLEROSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use, 1s. each, but to customers only.

If metals are exposed to the atmosphere they become oxidized; but there are few metals that will combine with oxygen if perfectly dry; they all appear to want a certain quantity of watery vapour, to act as a vehicle, as it were, to convey the oxygen to them. We have a familiar instance of this with all iron goods. So great is the affinity of potassium, sodium, and calcium, for oxygen, that they will burn in it, and the hydrogen evolved hydrogen is ignited. All except the noble metals are rapidly oxidized if heated in an open fire, and form a class of compounds, called oxides. These compounds will be more fully described in the history of the individual metals.

[To be continued in next week's Moving Journal.]

THE EXPLOSION OF THE CRICKET.

In the particular attention paid to this unfortunate catastrophe in our Journal, and the hearing of some of the strictures, we insert the following article, from the *Zodiac* as presenting a somewhat different view of some of the attendant circumstances expressed by us. It must, certainly, be unnecessary to assure our readers, that the remarks on this subject are not actuated by purely ill-considered feelings, or alone desirous that blame should attach to those who are deserving of censure. The great sensation caused by the explosion of the *Cricket*, testifies to the rarity of such scenes. Were they as frequent on the Thames as on the Mississippi, we should care as matters of course, and pass them by unnoticed, like the ordinary dispensation of Providence. But coming seldom, when one accidentally happens, it is the parent of a great alarm, and of much foaming eloquence, almost as alarming as the occurrence. The vehement writing that exasperates the public feeling and exaggerates the facts, to which cupidity it is said exposes the people, is quite as much a proof, happily, of the rarity as of the awfulness of the catastrophe.

We have not the slightest disposition to underrate the real danger, or jill the jealous vigilance, which is the best security of the public; but we have a great interest in not allowing imaginary dangers to check the progress of improvement, and in preventing excessive exaggeration from impairing the utility of the press. It is the real ark of our safety, and when it grossly exaggerates a danger, in contradiction to the daily and hourly experience of the public, it is not only rendering the ark itself impotent, but it also exposes the public to far greater dangers than the explosion of 100 Crickets. From its own exaggerations it is led to the conclusion, that such alarming occurrences can only be prevented by the watchfulness of the Government; the public under its influence adopts the same view; inspectors of steam-boats are demanded; and the Thames, placed under the control of a Government Commission, is subjected to a more vexatious interference for the communication of the people. That would be an infinitely greater calamity than an occasional explosion; and both as members of the press—the functions of which we do not wish, like some of our contemporaries, to be superseded by the police—and as ardent advocates of *laissez faire*, we must stand up, in face of the exaggerated views of the *Crickets*, for a system which is at once infinitely less costly, and infinitely more safe, than Government interference. The oscillating steam navigation system, which is the only system that is generally being employed, which consumes so much fuel as grossly to lessen the efficiency of steam for long sea voyages. The danger of high-pressure engines applied to ships, from which there is no means of escape when at sea, was considered too great to allow them to be used. Latterly, however, high-pressure engines have been employed by human beings, and the danger of explosion has been so much lessened, that the system of single action having been caused from that peculiarity of the engines, a distinct and clear proof has been obtained by experience of the safety of high-pressure engines: they have been accordingly applied to the oscillating marine engine to impel boats, and the application constitutes a great improvement in steam navigation. By saving two-thirds of the required fuel, greater and more continuous speed may be obtained throughout the voyage, and the time of steam navigation increased by being a shorter time at sea, while the expense is diminished.

while the expense is diminished. For instance, been brought into use on the river where, should danger arise, rescue is possible. It has been applied to comparatively small boats, and its advantages and safety tested in the presence of great multitudes of people. In the course of nearly two years those boats have carried backwards and forward about 5,000,000 persons, without a single mishap; but, at length, an explosion has taken place, and the human beings have been killed and injured. Immediately it is inferred that the whole steam navigation is of great danger; and even those journals which commonly are cautious, as well as those which are most eager to alarm the public, adopt and enforce the opinion, that the whole steam navigation of the river must be placed under the supervision of the Government. We object to that, from believing that it would place difficulties in the way of improvement, would divide the responsibility, and general habits of care and vigilance. It is not a question of the safety of the boats, but of the safety now current. Considering, in fact, the immense number of persons who are carried by steamers—the which, however, we have no accurate record, and we hope the different steam companies will furnish one—the accidents on the river are amazingly few. More lives, probably, are annually lost above bridge by the upsetting of wherries than by all the accidents on the river. The boats are carefully repaired, and the boatsmen are watched, and all accidents to be faithfully noted. Nothing of importance, however, can be alleged against it; and except, perhaps, the supply of our markets, with which the Government seldom interferes, and never interferes but to derange it, we are not acquainted with any part of the business of society which has been more successfully and advantageously conducted. It is a source of intense competition, and under the eye of the press, that the steam navigation of our noble river.

Another improvement is similar to the half-moon boats, in their form. They are built with both ends alike, and can be propelled with equal ease ahead or astern. We may say, then, that they have no stern, but a head at either end; so that it is never necessary to turn them round. Under any circumstances this is an advantage, but in a crowded tide way, or in a running stream, which sweeps vessels away when turning, in coming along the head end, it is a great advantage. The boats can be turned in any direction, and can be done with three such boats than with four ordinary ones; or, with two, so much work nearly can be done as with three of the others. The cost of working such a boat being not less than 1400*l.* a year, and a saving being effected of nearly one out of three, that is equivalent to 1600*l.* saved on an expenditure of 5000*l.* Moreover, boats which are built with both ends alike, and can be propelled in either direction, longer, and more accommodation can be obtained with equal buoy.

The advantages of its form and of the use of high-pressure engines, are at once proved by the vast number of persons carried at low fares. Between 4000 and 5000 persons removed from our crowded thoroughfares, which they would choose, and carried daily between the Adelphi and London-bridge for a half-penny, in five minutes with the tide, and in eight minutes against the tide, while to travel by an omnibus did cost 6d., and requires half an hour, is a prodigious public advantage. It is an equal benefit to the man of business, who is enabled to reach his office in five minutes, and to return, after a day's labour, more than 1d. an hour, but to whom a saving of toll and a few minutes' time, in a crowded day and pure air, are almost equivalent to lengthened life. The high-pressure boats shortened the time one-half, and reduced the cost of transit from 4d. to 1d. So great an improvement in the communication of the metropolis, encountered the fate of similar improvements. The author of it had hosts of rivals who depreciated and thwarted his undertaking, and his opponents, overlooking its immense advantages, joins them in running it down.

The public have been repeatedly told, and probably believe, that the cheapness is exclusively the consequence of employing inferior machinery and inferior servants. 'In the steam-rolling of iron, the excessive cheapness carries with it the excessive safety; in the rolling of iron plates, the excessive cheapness carries with it the condition of excessive unsafety; excessive lowness of fares implies excessive expenditure, and that implies a low scale of service.' But the cheapness is the consequence of saving two-thirds of the fuel by a superior contrivance—such as has given us cheap cottons and cheap cutlery—such a contrivance as stage coaches was in comparison to pack horses, locomotives on rails to stage coaches, and steam-boats to sailing craft, which notoriously have decreased very much the charges of travelling, or produced, in comparison, excessive cheapness, which is at the same time accompanied by increased safety. According to the *Spectator's* doctrine, every reduction of charge should be followed by increased danger and deteriorated service; while it is a fact, that in every branch of society, for making paper, printing, and weaving, and for all the arts of domestic life, the commodities produced have become cheap and of use to the multitude, it has been improved in quality. A lasting reduction of prices is the consequence of greater industry and skill only, which implies, contrary to the *Spectator's* maxim, the perpetual union, happily for human progress, of cheapness and goodness, including safety.

The principal program of the capitalists and politicians, including safety, is to reduce the wages of the workmen, so that they can employ on board the cheap boats a larger number of persons usually employed, and they are as well paid in them as in other similar services. If the machinery were not perfectly well-made, no proof was offered that an under price was given for it, and its defects are rather to be attributed to the unskillfulness of the workmen accustomed chiefly to make low-pressure boilers, than to cheapness of construction. At any rate, the principal proprietor showed his confidence in its safety by frequently passing backwards and forwards in the boats, and he perilled his life, if he put the lives of the public to hazard. For the promoters of cheap river navigation, the only means of saving money is to reduce the weight of fuel. Success depends on punctuality, on their boats running continually and regularly, and on their machinery, which is always the cheapest, could secure those objects. Machinery continually out of order, as bad machinery would be, though it did not blow up the boat, would render a punctual service impracticable, prevent passengers from using the boats, and destroy all the profit of the undertaking. To infer from low fares inefficient machinery and a low scale of service, when the low fares are the obvious consequences of

great improvements in contrivance, is contrary to fact, if not a perversion of reasoning. After an elaborate investigation, it is satisfactory to the public to notice that nothing transpired to show that the principle is erroneous and cannot be safely applied. On the contrary, Mr. Lloyd expressly said, 'I have no objection to high-pressures engines.' The fact is, as safe as any other boats. Admitting the cause of the explosion to have been the fastening down of the valves, that was the act of a reckless individual, which might have been avoided by the exercise of a little common sense. If the same person had been applied to a low-pressure boiler, it would have been a different matter. The public are not exposed to any additional danger from having the additional convenience. In all situations reckless and ignorant men are to be found, and as yet no better means of checking recklessness has been adopted than to punish it when it occurs. We do not object, therefore, to the verdict against Heasman, of manslaughter—nor to the declaration of the jury that Clark, the chief engineer, accused of having continually tied down the valves, is unfit to hold the situation of an engineer; but we see no justification of their assertion, that "Mr. Smith, the proprietor, was shamefully negligent, because he had not taken steps into the conduct of Clark." It is said, too, that the jury were only deterred by the representations of the public from extending the verdict of manslaughter from the chief engineer to his employer, thus throwing impediments in the way of future improvements, by subjecting the author of a great public convenience to severe punishment for the waywardness or folly of his servant.

We admit, that the 'way to make the proprietors and undertakers of such enterprises for profit responsible to the public safety, is to punish them in pursuance of any negligence in those they employ, which, in ordinary cases, they would prevent. If Mr. Smith had not taken proper precautions in managing the business, he would have deserved the censure of the jury; it is his misfortune, however, and the misfortune of all persons in his position, that the persons he and they are compelled to employ, are not remarkable, to use the language of the *Spectator*, for the 'cultivation of the intellect and the conscience.' The situation of an engineer, entrusted with the lives of many persons, is filled, somewhat to the discredit of our social regulations, by an ordinary workman. Such responsible situations are not in general made respectable enough, nor Mr. Smith, however, could only select one from the best of engineers, and Clark was strongly recommended to him by Mr. Joyce, the engine-maker, as a very superior man. For a considerable period his conduct was satisfactory; at length a complaint was made that he had fastened down the valves. Into that Mr. Smith carefully inquired, or he would have deserved the severest censure. No other person complained of Clark than Edwards, the stoker, who disagreed with most of his fellow-workmen, who appears to have kept no station long, and to have acquired no employer's confidence. Neither his general conduct, nor his mode of making the complaint, entitled him to be believed in preference to the other workmen, who all agreed, and had not been attended to. Mr. Smith would have been inexcusable; but, if they too were careless, they neither warned the proprietor nor the public. The misconduct of Clark was only a part of the accusation of Edwards. Clark denied the charge, asking—'Do you think I am mad?' He perilled his own life by his folly; and Mr. Smith, therefore, after weighing the character of the men, had no reason to believe the charge of Edwards. He inquired into it, and supposed it was groundless; and, on that supposition, he would have done an act of injustice had he dismissed Clark. The jury judged after the accident, when the consequences and its consequences had been made evident, and they censured Mr. Smith accordingly, because he had not the same knowledge in July which they possessed in September. He was not to be making barterful of money by a misconduct that, in itself, destroyed his property. His being so punished, the wealthy man could not be expected to be so punished, and the poor man could not be so punished. We, however, are less interested in the question, for the individual has not been

ple involved. The *new law* gives compensation to those who suffer from such accidents; the proprietor is liable to reimburse them for any loss; and it seems a double punishment to make a man pay first in reputation, and afterwards in purse. Such a responsibility, of which a coroner's jury, not always remarkable for the accuracy of its investigations, or the propriety of its verdicts, is made to judge, seems likely to deter men of property and character from engaging in the ordinary business of society, which will then become deteriorated, indeed, from being exclusively pursued by persons in whom the 'intellect and the conscience are uncultivated.' The destruction was, we admit, awful; but new inventions, or new applications of old arts, in the first instances, are generally attended with danger. In this case the loss was small, compared to the number of persons carried; and it is to be expected that the knowledge gained by the catastrophe will be eagerly sought, and will be soon put to use, and that the owners will be careful. To interfere with the navigation of the river on account of this accident would be most unwarrantable. To place it under Government inspectors, who are found to be no security for good conduct in loading emigrant ships, and in various other departments of business, would infallibly put a stop to improvement, and soon deteriorate, and ultimately destroy, the present admirable system of steam navigation on the Thames."

[The following are extracts from the interesting proceedings of the Royal Cornwall Geological and Polytechnic Societies, held, at Penzance and Falmouth, during the past week—detailed reports of which are published in the *West Briton*, the *Cornwall Gazette*, and other Cornish papers.]

APPARATUS FOR ASCERTAINING THE SPECIFIC GRAVITIES OF BODIES EXPERIMENTALLY.—This was invented by Mr. E. W. Fox, who said that, in visiting Wales a month or two ago it occurred to him that it would be important for the iron smelters there (buying as they do Cornish and other kinds of ore), to have some apparatus for easily ascertaining the specific gravity of ores, that having reference to their richness. He had since then constructed a little apparatus for weighing quantities. The principle depends upon the weight of water displaced, as indicated by an external graduated tube, the amount of the displacement being the divisor of a body weighed in air. The apparatus is also capable of acting as a balance by the use of a close cylinder, which by sinking in the water raises the water in a tube carefully graduated; so that, when the water is brought to the zero point, every substance put into the cylinder, of any kind, and however divided, will have the same weight in water. The tube, however, is applicable to weighing ore of all kinds, and to detecting the presence of any metallic substance in stony matter. For instance, he knew the specific gravity of quartz or slate, and if it exceeded that, he should suspect there was some metallic matter in the stone, and the weight would show the amount of metallic matter. He believed it would ascertain the specific gravity to the third figure of decimals. The adjustment of the zero is easily accomplished by a little cock below the tubes, and the construction of the apparatus is very inexpensive.—Mr. Fox, in giving the description of this instrument on the following day, said he could wish to ascertain whether iron, manganese, tin, or any kind of ore, of which he wished to obtain the specific gravity, that having always reference to its richness. He might first weigh it in a common balance, or he had the means of weighing it by the water balance in the instrument itself. After stating the manner in which he had carefully graduated the scale, he weighed some quartz pebbles by means of the instrument, which amounted to 2560 grains—this being the scale, he stated, as if they had been weighed in a common balance. He then weighed a piece of iron in the same manner, and it weighed 2560 grains in air giving the specific gravity. The weight in water was 1050 grains, which being used as a division of the weight in air 2560 grains, gave the specific gravity as 2438, or nearly two and a half heavier than water. The instrument, he said, was capable of testing the weight, as compared with water, of any earthy substance, of soils, or of any lighter substances than water, by pressing them down. He thought that, for testing the specific gravity of tin, iron, or manganese ores, the utility of the instrument to miners may be very great, and he thought it would be very useful to the smelters of iron. He then described such an instrument as that invented by Mr. Fox. Supposing for instance, that lead ore was mixed with quartz, this instrument would afford a ready way of determining the amount of metallic substance in such ore. A large quantity of iron ore was now exported from this county, which ore was very homogeneous in its metallic character, and might be determined by the ascertained specific gravity of any sample. It was very desirable to have a ready way of finding this specific gravity, and he considered that Mr. Fox's instrument would be very useful to the smelters of iron. He then said that he expressed his delight to hear that the Cornish iron mines were more productive than they had been in time past.

IMPROVED COUNTER, OR PLEOMETER.—This machine, the invention of Mr. E. T. Newton, of Cambrone, was thus described:—This counter is intended to register the exact space passed through by the piston of a pumping engine. On the examination of this instrument, when attached to the engine, it will be found that the slightest movement of the piston (when making the stroke) is shown in a proportionate degree on the index, and that on the return of the same, it stands still, so that every inch traversed is accurately shown. The cause of difference in this and the old counter arises from the falling of the pendulum when the engine has gone about three-fourths of her stroke, and even should she stop at the end of the stroke, the pendulum would fall, and the index would not show the exact space passed through by the piston. From the simplicity of its construction, it is not so liable to get out of order as those heretofore exhibited, being free from clicks and the ratchet, which have been found not to answer. This instrument is attached to the end of the rod of the bob by a shaft or rod, on the extreme end of which is a lever, with a sliding rod, or index, attached to it, constructed as to be adjusted to any length of stroke. Under the instrument is fixed a friction-wheel, composed of a mixture of iron and wood, with grooves on its edge; into these are fitted two springs attached to the lever, and two others of the same kind fixed directly opposite; so that when the lever is being lifted by the motion of the bob, the springs attached thereto act by pressure, whilst the others yield, and on return of the stroke they *act versa*. It will be seen from the report of the committee, that this instrument was first used in the engine of the *Waverley*, for six months, ending August 25, 1847; and the result shows an average loss of 7 inches per stroke, and 3-3 millions on the duty of the engine per month, during that period.

A PLAN FOR FIXING A STAMPING DEPARTMENT FOR FIFTY HEADS.—A premium of \$1,000 having been offered by the Polytechnic Society and Capt. Richards, for "the most approved drawing of the best plan for fixing a stamping department of 50 heads," a drawing was sent by the agents of Dolcoath Mine, who called attention to the following advantages of the plan they proposed:—The size, position, and mode of using the buddles, with the slimes, at the stamping department, and the mode of working the same, is described regularly on the surface of the buddle, 5 ft. wide, and 10 ft. long, by means of a slip of iron fixed in the head, and the waste is more effectively carried off by the constant use of a broom. Two or three operations of this kind are sufficient to prepare the roughs for tossing. For the more perfect cleansing of the back part of the buddle, as well as to save the expense of sweeping, the slimes are thrown at once into a strip close behind. The second advantage is, that in this position and position of the slimes, the stamping is done without the use of wheeling or tramping, the slime is worked close to the stamps pits. One cover is sufficient to supply 10 or more trunks, according to the roughness of the slime. The cover is fixed at *one end of the set of trunks*, for the purpose of making the most effective division of rough and fine. The trunk nearest the cover will contain the roughest, and the trunk farthest from the cover will contain the finest. The same principle is observed and the frame framed. In the second and third set of trunks the same practice is observed, the slime being worked immediately from the slime pits without removal. Thirdly, in tramping, one girl works two frames in the first set, where the best slime is worked, and one girl in the second set, where the slime is very poor. The agents recommended the covering of the buddles, frames, and tossing floors, that the work might not be suspended through bad weather.

MACHINE FOR REGISTERING THE VARIATION IN THE VELOCITY OF PISTONS.—This machine was described as follows:—It consists of a cylinder (on the circumference of which placed the paper on which the observation is to be taken), driven by a connection being made with any convenient part of the beam, and an arrangement of a crank and levers, and other suitable means for producing the regular reciprocating motion of an arm carrying a pencil at its extremity, resting on the circumference of the cylinder. In the model, there was a narrow cylinder attached by a pinion and wheel, for its more convenient adaptation to engines having a long stroke. When the piston is at rest, the pencil will describe a straight line, the pencil, extended for fit reception; the latter being set in motion by the revolution of the cylinder, a series of curves will be traced, the distance of the pencil will result. By dividing these curves longitudinally into any number of equal parts, the velocity of the piston during any part of its stroke may be easily obtained. The inventor stated that the observations may be preserved, and the results obtained at any period from the time of observation with mathematical precision. Other means, he stated, for producing the reciprocating motion of the pencil may be adopted with advantage, that of the use of bell cranks, or uniform motion, as it may be—a circumstance referable to experience, and a want of time for its rectification.

NEW APPLICATION OF MAGNETISM.—It was proposed by Mr. James Way, of Burncoose, to apply the magnet, not at once as a motive power, but to the economy of power obtained through other agencies—and this by employing it to lessen the friction of rotatory or oscillating bodies. In the model illustrating this proposition, a permanent magnet is fixed over the vertical axle of a wheel—the axle being of iron, and the magnet so nearly in contact with the surface of the upper end of the axle that the weight of the wheel is nearly, if not completely, supported by the magnetic attraction. On giving motion to the wheel by the descent of weight, it will be found that the magnet will retard the motion, and stop the wheel in rotation for a definite period, and that this period is considerably greater when one of the poles of the magnet is brought in close proximity to the end of the axle, than when so far distant that the axle is beyond the influence of the current. The writer has found, from repeated experiments, that when the magnet is effectively placed, the weight of the wheel causes the wheel to continue revolving during 30 seconds, whilst in the common mode of construction, it would scarcely revolve more than 10 seconds. The model is simple, economical, and capable of useful application, is in the case of the model exhibited, not less than 30 per cent. on the whole of the power which would be of service are the magnet dispensed with. The friction of rotating bodies being (as shown by Coulumb), in direct proportion to their weight or pressure on their centres, the writer submits that a magnet of suitable power may be so placed over the axis of a wheel, retaining the weight of the wheel in its position, as to diminish to a minute fraction of its original amount, this remaining fraction being due to the necessity which would exist in practice for allowing the weight of the wheel to preponderate slightly over the lifting tendency of the magnet. Although probably incapable of being economically applied to ordinary machinery, it is believed that in increasing the delicacy of chronometers, of balances, and even of the magnetic needle itself (in the mariner's compass), and of all the finer forms of mechanism in which friction is a formidable evil, the employment of permanent magnets, or of magnets of the kind proposed, would be of great service. In the case of magnetism, giving the command of weapons vastly more powerful, might even be available in the case of larger rotating or oscillating machinery.

ELECTRIC ACTION AFFECTING METALLIFEROUS DEPOSITS.—**LT. WILLAN** read a paper this subject, by Mr. Percival Norton Johnson, of Tavistock, a corresponding member the society, who said he had lost no opportunity in endeavouring to establish, by observation and experiment, the effect of various rocks and formations acting as positive and negative poles for the deposit of metalliferous substances, and that the existence of such deposits depends not only on the difference of rock or strata, but that the electric current must be able to pass through the rocks, or the joints or cleavage of the strata or rock in which they are found. These are points, Mr. Johnson said, which have not been observed by many practical miners; but the point to which he hoped to give particular attention was, whether the atoms or constituents of metalliferous deposits are absolutely created by the galvanic current (shown by Mr. Fox's experiments to exist), whether the material really forms a part in minute proportions of the surrounding rocks, and is brought together by the electric current. In his experience, he had never seen a deposit, without finding the existing cause to be the difference of the strata, or the percolation of moisture in the joints or cleavage of the rock, sufficient to cause the contiguous formation. Mr. Johnson then called the attention of the meeting to three specimens which he had forwarded. No. 1, he said, shows the critical galvanic point

from that to the sulphuret and ruby silver. No. 2, shows the character of the quartz forming a cross-course in the Callington Mines, the quartz having facings of ruby silver; and he had observed the same effect in the highly-stratified clay-slate, forming one of the walls of the argentiferous deposits of Whal Mexico, in the eastern part of the county. No. 3, he said, formed a part of the exterior of a bunch of silver ore, and is curious as being composed of clay ironstone, with carbonate of iron, blende, and gray silver. He was aware that this is a most difficult subject to attempt to prove, as it might be argued that if the surrounding rock is impregnated with a certain metal in any state of mineralization, the question would naturally follow, in what circumstances, and why does this rock contain such localities of the metal, which is not the case in other localities. It does not? He must acknowledge that with our present information the subject can only be useful by giving interest to the pursuit of mining, and perhaps by so doing lead to discovery and economy in working.

ON STREAM-WORKS.—MR. PEACOCK read a paper on this subject by Mr. E. Newton, jun. The writer remarked that Mr. Carne, in one of his papers, stated that "on looking at the direction which the streams bear from the mines, it will appear most probable that the course of the current which swept the tin from its original situation must have been from north to south nearly, or rather from N.N.W. to S.E.E." Now on looking over the numerous stream-works (Mr. Newton observed), on the south side of the peninsula, we may see that the tin has been swept from the north side of the tin-works, and that it has been found on the north side of Cornwall. He then mentioned instances which, he said, demonstrated that the ancient streamers must have found tin scattered throughout the valleys on the north side as well as on the other, and that the flood had an equal effect. In his opinion the flood must have swept from S.S.W. to N.N.E.—After the reading of the paper, MR. CARNE said the writer appeared to suppose that he had stated there were no deposits of stream tin on the north side of Cornwall. His statement, however, was (here Mr. Carne read from a volume of the society's transactions), that most of the tin-works on the north side of Cornwall, and the tin-works on the south side of the peninsula, have been found in many of them, no extensive beds have ever been discovered." Mr. Carne said he still maintained that fact, and he then proceeded to illustrate his statement by referring to the rivers of Lelant, Hayle, Annagarrack, Gwiltian, Portreath, and those emptying themselves at St. Agnes. He said that, although the most productive tin lodes are all on that side of the county, yet in none of these rivers are there extensive beds of alluvial tin found. With regard to the southern district, Mr. Carne alluded to the rivers of the Tamar, the Looe, the Cornubia, Newlyn, Portludlow, the Looe, the Fal, the estuary of the Fal, Lamorna creek, St. Austell by the estuary at Par, and the Tamar river. Extensive tin streams, he said, are connected with all those rivers.

APPEARANCES IN GWINEAR CONSOLS AND WHEEL SETON.—Mr. J. N. R. MULLISTY, read a report to the president, by Mr. W. W. Rundell, the secretary of the Polytechnic Society, on certain appearances in Gwinear Consols, and Wheel Seton. Mr. Rundell referred to a lode traversing North Roake set, which was a very irregular one, though its general direction was such as to give it the name of a "caunter." After the lode leaves North Roake set, it traverses part of that of Wheel Seton, and is thus heaved to the right at a great cross-course (a flookan). After passing the cross-course, the adventurers drove north to find the lode, and after driving 10 ft. they cut on what was considered to be the lode they sought; but, as this was an east and west lode, others thought the right lode was yet further north. About 14 fms. further on, another lode was cut; this was a cross lode, and was pronounced by Mr. Rundell to be the same as the lode of the flookan. Mr. Rundell, however, thought of Capt. Raby's alone was of a different opinion; the quality of the ore was not the same, and though the lode was a large one, it did not correspond sufficiently with that on the other side of the cross-course. He, therefore, began driving further north; and had proceeded some distance, carrying traces of the heave with him, when it was thought to be highly imprudent in him to go further; so convinced was he, however, that he should find the lode, that he offered to prosecute the search at his own expense; and by the wish of Mr. Tilley, the principal adventurer, he was allowed to proceed; 18 fms. further north he cut what he considered to be the true lode, it corresponded with that on the other side of the cross-course, and has already produced a great share of the riches of the mine. Mr. Rundell, however, was not satisfied with the lode of the flookan, and stated that there is an old mine, no record of its working being known to exist, and that it was in now course of being re-worked. It has not yet been worked below the deep level, a depth of 23 fms. Mr. Rundell found that the pebbles which had been mentioned by Capt. Phillips were not in the slate, but in the lode; and by the assistance of the managing captain, he brought away a few small specimens, illustrating the nature of the lode in which the pebbles occur. The captain at Gwinear Consols also gave him, what he considered, a great curiosity, a pick from the "old men's workings," found in the mine a short time since, with part of an old wheelbarrow, which differs somewhat in its construction from those in use at present. Mr. Rundell proceeded at once to the examination of this, and the neighbouring mines, would be likely to require the geologist and mineralogist, and would probably, after careful inspection, throw much light upon the subject of the filling up of those fissures in the crust of the earth, known as mineral veins.

GOLD OF BRAZIL.—MR. CARNE read a paper on the detrital gold deposits of Brazil, by Mr. W. J. Henwood, F.R.S., F.G.S., chief commissioner of the Gongo Soco and Bananal gold mines, and a member of the society. In this paper, the author pointed out the differences between the characters and qualities of the diluvial and alluvial gold of Brazil and instituted a comparison between the former and the stream tin-ore of Cornwall.

ELECTRIC TELEGRAPH.—Mr. Little, in giving an explanation of this apparatus as patented by Messrs. Brett and Little, first called attention to the improvement in the battery. On the principle previously mentioned, the apparatus would not be so deep as the old one, and the old principle it would not do so far as many hours. He also explained that the indicators were perfectly free from vibration, whereas in the telegraphs in use there was often a confusing vibration. The next improvement he described was that of the insulators, which are bell shaped, and secured on the top of the wire by a screw, and the wire and post is entirely independent, and all possibility of a circuit with the earth cut off.

[We have been requested to publish the following letter, as "containing some suggestions worthy greater publicity than they might obtain through the original channel of their appearance"—the *Manchester Examiner*.]

(SIR).—Whenever a railway accident unfortunately occurs, sympathy for the sufferers naturally arouses philanthropic minds. Invent plans for the prevention of similar accidents, and the public mind is continually crowded with suggestions for this laudable purpose, and many of them are good and practicable, yet how seldom are any of them being adopted, or even entertained. It is quite evident that little, if any, improvement has been made, either in the construction of railway carriages, or the method of conducting the trains, since their introduction into this country. This may seem astonishing to persons who are not aware of the numerous deaths which descend upon the passengers of these vehicles, but I am perfectly satisfied they have not time either to invent remedies themselves, or to consider the numerous suggestions of others by which they are continually inundated.

The only remedy I can propose for this state of things would be, for Parliament to appoint a competent tribunal, with power to examine all inventions for increasing the safety of railway travelling, deciding upon their respective merits, and awarding compensation to such as are deserving. I make these remarks from the experience I, as well as others, have had in endeavouring to introduce different plans for the prevention of accidents, and some of which have been acknowledged by eminent engineers to be decided improvements upon the present plans, and yet they are not adopted. If you can spare a place in your valuable paper for the following suggestions, I am sure more than by private communications. The first great necessary improvement, then, in the construction of railway carriages, is a passage through the centre, with a communication from one carriage to another throughout the train, so that a guard could be in constant communication with all the passengers, and collect the tickets without loss of time, or the danger of losing his life by scrambling along the outside steps and platforms. This may be accomplished without loss of room or accommodation for the passengers, by appropriating the space now occupied by the steps and platforms to the width of the carriages, and their necessity supplied by building the leading and the second class stations a sufficient height to enable the passengers to climb up and down, and to leave their seats.

The second necessary improvement is a continuous break—that is, a break applied to every wheel of every carriage in the train, however numerous, at the same instant, so as to stop it either instantly or gradually, as the necessity of the case may require. This break must either be self-acting, or worked by one man alone, with a sufficient mechanical contrivance to give him the necessary power. The only engineering difficulty to this continuous break, and which has hitherto been considered insurmountable, is the motion of the buffer rods, by which the connection of the carriages is slackened. This obstacle,

I propose a diagonal break-rod under the centre of each carriage, to apply the breaks to the wheels; these break-rods to be connected by a slide coupling and universal joint, which will allow the break-rods to swing, but will not allow the coupling to swing. This coupling spring can be fixed in the centre of the break-rod, of the same strength as the buffer spring, which, it is evident, would have the same resistance. These breaks may be worked by hand, by the momentum of the train, or by many other ways which I could suggest, but the limits of this communication will not allow me to go further. They ought, also, to be placed on the tops of the wheels, so as to force the pressure of the train into the iron of the wheels.

The third necessary improvement is an effectual method of communication, by signals, between a guard at the front of the train, whose sole duty should be to attend to the signals, and the engine-driver, whose sole duty should be to attend to the signals behind, and any intermediate driver. I would not allow any communication between these guards and the passengers, but have a third guard to each train, who alone should have the means of communicating with them, and, in case of alarm, he must ascertain the cause by going to the carriage from whence it proceeded. Cells are decidedly the most effectual signals for all circumstances, and it will be perceived that by means of the diagonal break-rods, under the carriages, they may be placed in any position—one may be connected by wires from the last guard to the first, and one to the centre of the train for a third guard, with a communication in the carriages. It scarcely necessary to add, that the guards should have convenient glazed boxes, to

Self-acting road signals might also be invented, by which, in case of obstruction, the train should warn itself by ringing a danger, by having a rime placed along the rails, with ratchet levers at each end, connected to stationary bells, fixed at certain distances on the electric telegraph wires. I am afraid I have made this communication already too long for your convenience, or I would pursue it much further; because I know many will say it is not sufficiently explicit to be reduced to practice; but I have left lithographic plans and specifications with Mr. Heworth, railway waggon-maker, of Leeds, to whom you will refer, who will furnish you with a full description of the rails, to be connected with railways on application, either personally, or by letter, post-paid. — E. J. HOUGHES: October 4. J

SELF-ACTING RAILWAY BREAK.—One of the most interesting objects exhibited at the *conversations* of the Literary and Philosophical Society, on Tuesday night, was a model of the self-acting railway break, invented by Mr. R. Ayre, of Newcastle. Every one knows, that when a locomotive engine brings up or slackens its speed, the waggon comes bumping against each other—and that, when the engine goes a-head again, the train extends itself as before. Mr. Ayre has contrived a simple piece of machinery, by which, as the waggon approach each other when the steam is shut off, a break is applied to every wheel of the whole train; and, as the waggon separate, the break is withdrawn. There is considerable merit, it seems to us, in Mr. Ayre's invention; and not the least of its recommendations is its simplicity. How far the device is likely to bear the wear and tear of everyday traffic, it is for more competent critics than ourselves to decide; but we trust that the railway world will give it their candid consideration. If it should be found to answer its intended purpose, our ingenious neighbour will take rank amongst the greatest of our public instructors.—*Gateshead Observer.*

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—The shaft on the Slob is going down but slowly; owing to a change in the ground it is now much harder; the branches are gone through the shaft to the north side. The men in the rise in the 18 fm. level, against this shaft, have discovered a lode about 3 ft. wide, mixed with lead and white iron; we have not seen enough of it yet to report its value. The lode in the winze behind this end, is still getting larger—about 1 ft. wide, with a solid branch of lead, about 8 in. wide, still taking down almost perpendicularly, and worth about 90 per fm.; the rise over is at present poor. The part of the lode working under the 18 fm. level is not altogether so well as last reported—worth, at present, from 120 to 140 per fm.; the lode in the same level end east, is still very poor, and in unsettled ground. We have had a very nice discovery of ore, during the last week, behind the 12 fm. level end, which I hope will continue away west; the lode is 3 ft. wide, and worth from 160 to 200 per fm.—it is at the junction of the main and middle lode. The stopes on the middle lode, east and west, in the bottom of the 12 fm. level, continue much the same—worth about 100 per fm. The pitches, on the whole, look a little better. We have nothing new in the adit end east.—October 8.

BEDFORD UNITED.—At Wheal Marquis, the lode in the 90 fm. level, east and west, is 3 ft. wide, and worth about 500 per fm. The lode in the 80 fm. level east is still 5 ft. wide—saving work; there has been no lode taken down in the western winze in this level. In the 70 fm. level east, the lode is 2½ ft. wide—saving work. The lode in Hooper's rise, in the 58 fm. level, is 1½ in. wide, composed of spar, mndic, and good stones of ore in places. At Liscombe, the lode in the deep adit level is 2 ft. wide, composed of spar, mndic, and good stones of ore; and in the rise in this level, the lode is producing good stones of ore. The lode in the 25 fm. level, east of the south engine-shaft, is 2½ ft. wide, composed of spar, mndic, and ore; and in the adit level east, the lode is 18 in. wide—spar, mndic, and ore.—October 12.

COATLITHE HILLS.—The level east from A shaft has been driven about 3 ft. during this week; the vein in the end is much the same as when I last wrote; the horse level men have risen up as high as the bottom of the limestone, and have let down part of the water; and it is probable, during the next week, they will let down a great deal more; I intend making a communication between the shaft and the top of the rise as soon as possible.—Oct. 9.

COOK'S KITCHEN.—In Chapples' shaft, which is now down about 94 fms. under the 180 fm. level, the lode continues large, and productive of a small quantity of tin. At about the end of this month, we hope to finish the shaft to the 190 fm. level, and to commence the necessary preparations for driving the said level east and west, which will, we hope, open into ground that will be more valuable to us than any we have yet passed through. In the 180 fm. level west, the part of the lode which we are carrying is 4½ ft. wide, and worth about 80 per fm.; in the 180 fm. level east, the part of the lode which we are carrying is 4 ft. wide, and worth about 50 per fm. In the winze, sinking under the 170 fm. level east, which is down about 8 fms., the part of the lode on which we are sinking is 4 ft. wide, and worth about 80 per fm.; the 170 fm. level west we have holed to the tribute workings—the object which we had in view—and have thus succeeded in facilitating the working of some of our most important tribute ground, by bringing it into easier communication with Chapples' shaft. On the Druid lode, we have cleared the adit about 25 fms. west of the boundary; but have been obliged to take the men away for the present, to assist on the preparatory work for the new stamp. There is not much alteration in the tribute department generally; but the ground, working in the bottom of the 160 fm. level east, is looking rather better, and presents favourable indications for being a productive piece of ground, both for tin and copper. The amount of tin sent to the smelting-house, on Saturday last, was 10 tons 5 cwt. 3 qrs. 16 lbs., which makes 24 tons 14 cwt. 3 qrs. 1 lb., realising 1157. 12s. 4d. for the month. At no part of the year has the want of water been so sensibly felt as during the past month—it not being enough sometimes for our shaft engine to condense with; but it is now very much on the increase, and our stamps are all working very actively—so that we may safely calculate on an increase on this quantity of tin during the ensuing month.—Oct. 11.

CUBERT SILVER-LEAD.—The lode going west, in the 35 fm. level, is 3 ft. wide, very wet and hard—worth about half a ton of lead ore per fm.; in the eastern end the lode is 1 ft. wide, composed of soft spar, mndic, and lead—promising end. In the 25 fm. level, driving west, the lode is 2 ft. wide—a very kindly level, and worth from a half to two-thirds of a ton of ore per fm.; in going east, in this level, the lode is 1 ft. wide, producing stones of lead. In the 15 fm. level west the lode is 1½ ft. wide, and will produce one-third of a ton of lead per fm. All other places are much the same as before reported.—Oct. 8.

DEVON AND COURTNEY CONSOLS.—Oct. 5.—The lode in the 30 fm. level, driving west, is 2 ft. wide, composed of spar, mndic, and spots of ore; in the end, driving east, in this same level, the lode is 3 ft. wide, containing a quantity of peach, mndic, and spar. The lode in the deep adit level is 20 in. wide, composed of soft spar, mndic, and good stones of copper ore. In the shallow adit level, on the north lode, east of the flat-rod shaft, the lode is 2 ft. wide, composed of flookan, can, mndic, and stones of ore; the pitch, in the back of the shallow adit level, on the north lode, is looking well. In the engine-shaft we have intersected some branches of spar, containing copper ore, underlying towards the lode.—Oct. 12.—The lode in the 30 fm. level, driving west from engine-shaft, is 2 ft. wide, containing branches of spar, mndic, and stones of ore, interspersed throughout the lode—we are now about 3 fms. west of the cross-course; the lode in the 30 fm. level east continues very large, composed almost entirely of mndic and peach; but, as it is intended to sink the engine-shaft, and cut the lode at a deeper level, this end is suspended for the present. The lode in the deep adit level is 2 ft. wide, composed of soft spar, mndic, and occasional stones of ore—at present, a very kindly lode. In our shallow adit level, on the north, the lode is 2 ft. wide, composed principally of flookan, mndic, spar, and spots of ore; the pitch, in the back of the shallow adit, on the north lode, continues to look well. We have also set some men to stop some ore ground east of the flat-rod shaft, on the north lode. The ground in the engine-shaft is composed of killas, with some layers of spar; its depth about 6 fms. below the 30 fm. level.

EAST ALVENNEY.—The lode in the shaft is improving very fast. We have discovered another branch of tin, on the north side of the shaft, about 2½ in. solid; the south branches growing larger as they go down, and the elvan coming in more. Capt. Spargo says, it is worth from 700 to 800 per fm. for sinking in the shaft. We have from 7 to 9 in. of solid crop tin in the shaft.

EAST CROWDALE.—The ground in our engine-shaft continues just as when last reported upon; we continue to break good stones and spots of ore in branches of spar, which runs through the killas; next week we shall get all necessary work done, to commence driving to cut the north lode, which we expect to do in about 9 ft. driving—that is, if the lode keeps the same underlie as when the shaft passed through it at Rix Hill adit level; driving west, the appearance of the lode is not quite so good as last week, the lode being smaller in the back, though it keeps just the same size in bottom of the end, it is, on an average, about 15 in. wide, composed of peach, mndic, spar, killas, and spots of tin. We have not as yet finished the pit, but hope to have all things in readiness to begin to sink about the middle of next week, on a good bunch of tin gone down below the adit level. Our engine and pitwork in good order.

GREAT MICHELL CONSOLS.—The sumpmen have been, and still are, engaged opening a 35 fm. level, east of the sump winze, as well as sinking below the lode; the level is full 5½ ft. wide, 4 ft. of which is a good course of ore—worth 300 per fm.; and, for 4 ft. in length, towards the east end thereof, there is a good lode—worth full 300 per fm. dipping west, as we had at first expected, and promising further improvement. In the 35 fm. level, west from the winze, the lode, for the whole width of the end, is very promising, containing mndic, spar, peach, and ore—producing some saving work; in the 35 fm. level, east of the engine-shaft, the lode is without important alteration—full 7 ft. wide, consisting of mndic, spar, and fluor, and rich stones of ore; in the 35 fm. level, west of the engine-shaft, the lode, for the width of the end, 5 ft., is carrying abundance of mndic, intermixed with ore throughout—an exceedingly promising end; on the whole, our prospects are very good.—Oct. 12.

GREAT WHEAL MARTHA.—The lode in the 40 fm. level east is 5 ft. big, carrying two well-defined walls, composed of spar and mndic, impregnated with copper; and, as the capel is wearing out, there is no doubt of its making an abundance of ore in depth.—Oct. 9.

HERODSCOMBE.—We have cut the lode in the 12 fm. level; and I have waited to send you these particulars; it is about 20 in. wide, and poor, like the ground over it in the adit, but is of a softer character, and containing a great deal more mndic—which is, so far, a favourable change. We are now putting in air pipes, to supply air to the men, who will then be able to drive; and we hope soon to reach the ore ground. It is worthy of remark, that scarcely any water has flowed from the lode.—Oct. 14.

HERODSFORD.—This mine is looking very well in every part. We have now a full supply of water for our drawing machine, but have not been, as yet, able to gain much on the accumulated rubbish underground; notwithstanding this, however, we shall raise 40 tons of ore this month—which will make our next sampling 70 tons; and we can undertake to promise, at least, 100 tons, as November and December produce, with every indication of increase.—Oct. 14.

HOLMBUSH.—The ground in the diagonal shaft, sinking below the 120 fm. level, is still favourable; the lode in the 120 fm. level, west of the great cross-course, is still in a disordered state, rendered so by several small cross-courses, and we think by the slide. The lode in the 110 fm. level south is 20 in. wide, composed of flookan and stones of lead, with favourable ground. The lode in the 100 fm. level south is 2½ ft. wide, composed of soft spar and lead, worth 100 per fm., with a beautiful white killas strata on each side of it; the pitches,

in the back of this level, are producing a fair quantity of lead to make the men's wages in their tribute. The lode in the 90 fm. level south is 2 ft. wide, composed of flookan, spar, and lead—ground favourable for driving.—Oct. 12.

KIRKCUDBRIGHTSHIRE.—The lode in the 50 fm. end west is 3 ft. wide, producing stones of lead, but not rich; the stopes in the back of this level are producing 1½ ton per fm. The lode in the 30 end west is 4 ft. wide—worth 150 per fm., and likely to do better; the rise in the back of this level is producing three-fourths of a ton per fm., as also the stopes in the back of this level. In the 20 fm. end, driving west, the lode is 5 ft. wide, producing 1 ton of lead per fm.; the stopes in back of this level is also producing 1 ton per fm.—the same will apply to the stopes under the 30 fm. level. The stopes in the bottom of the 20 fm. level, yielding 4ths of a ton per fm. I am happy to state, that our crushing machine and 20-ft. wheel works splendidly; and we contemplate on turning our attention to attach the jigg machinery to the same wheel. We have engaged the vessel *Claucloudeon*, Capt. Nay, to ship our ore on the 12th—computed 45 tons. Sinking Reith's shaft, by 9 men, we have discovered the rock, but not the lode—we are now extending south to find it.—Oct. 9.

LEWIS.—The sumpmen have fixed the new lift in the 60 fm. level, and will set it to work this afternoon, so that they will commence sinking below the 60 on Monday next; the lode in the above shaft is split, but, from its appearance, will intersect in about 8 fathoms sinking; and, if the intersection in the shaft proves as favourable as it did in the 60, east of the above shaft, we shall then have a good lode; the lode in the 60 end, east of tin shaft, is much the same as when last reported; the ground in the cross-cut, south of the 64, west of sump winze-shaft, is favourable; I hope it will be still more favourable when we get in and cut the south branch. The lode in the 50 east is not so promising as it was last week, but in a disordered state; the lode in the 50 east, on south branch, is 18 in. wide, worth 200 per fm.—better than ever I saw it before—just now, on the cross-cut coming in at the 60. All other places are much the same as when last reported.—Oct. 9.

SILVER VALLEY.—The ground in the engine-shaft is favourable for sinking; the north branch of the tin lode, in the 60 fm. level end west, is 1 ft. wide, composed of capel and peach, and contains some tin; this branch, in the 50 end east, is 18 in. wide, being of the same composition, and tinny throughout. We expect, in about 3 fms. east, this branch will intersect the south one, when the effects of the junction will be seen. At the silver mine, the lode in 30 fm. level end west, is in two parts—the footwall branch is 10 in. wide, principally flookan, with mndic interspersed; the hanging wall branch is 9 in. wide, consisting of mndic, peach, carbonate of iron, and quartz, and produces small portions of silver. We have commenced a rise in the back of this level, designed to gain a little west under the shoot of silver ground, in the 20, in order to ventilate this level, and give a better advantage for stoping; the lode, in the 20 fm. level end west, is 16 in. wide, composed principally of flookan and mndic; the lode in the rise, in the back of this level, produces a little work of inferior quality; the stopes, in the bottom, produces occasionally stones, containing grey, ruby, and native silver.—Oct. 12.

SOUTH DOLCOATH.—We have commenced driving west, in the 40 fm. level, where the lode is 2 ft. wide, composed of strong iron, gossan, mndic, and quartz, with some fluor-spar—very kindly. The lode in the 20 fm. level west is 3 ft. wide, composed of iron, mndic, quartz, and spots of copper ore, with something else, which I know not what to call—it may be chromite of iron, or something more valuable—I shall be able to tell you more about it in a short time; at any rate, it is a very promising lode, which we are saving to itself.—Oct. 11.

SOUTH WHEAL MARIA.—The lode in the 20 fm. level west is from 2 to 2½ ft. big, and continues to yield some good ore; and as we are approaching the caunter lode, I have no doubt but that it will go on improving. The ground in the cross-cut north is without any alteration; at the speed we are now driving in this direction, it will take about two months more to reach the north lode.—October 14.

SOUTH WHEAL TRELAWNEY.—I beg to send you a report of the above mine. Snell's engine-shaft is in course of sinking with nine men; down in the 14 fms. under adit, ground favourable—water a little quick.

TAMAR SILVER-LEAD.—In the engine-shaft the lode is 1 ft. wide, carrying a small leader of ore. In the 160 fm. level, driving south, we have not broken any lode since my last report, nor in the end driving north in this level. In the 145 end south the lode is 1 ft. wide, carrying two branches of ore; in the same level, driving north, the lode is small and poor. In the 135 fm. end, the lode is from 3 ft. to 4 ft. wide, composed of fluor-spar and good work for silver-lead ores. In the 125 fm. level the lode is still about 1 ft. wide, producing ore, but not rich. At the north mine, the lode in the 70 fm. level is 3 ft. wide, still continuing to produce some good work. In the 60 fm. level the lode is 2 feet wide, composed of can, mndic, and ore. We sampled on the 2d inst., 88 tons 14 cwt. 2 qrs. of silver-lead ore.—Oct. 11.

TINCROFT.—There has no improvement taken place in either of the ends in the 100 fm. level since last report. The lode in the 90 east is 4 ft. wide, with occasional stones of ore; the lode in the 90 west is 20 in. wide, producing some good quality ore, and very kindly. The lode in the 80 east is 20 in. wide, producing some tinstuff; the lode in the 80 west is still in a disordered state, with very little ore. The 70 end east is hard and unproductive. The 60 west is producing saving work for tin. The lode in the winze, sinking below the 70, is 20 in. wide, ore, but not rich. We have eight men stoping the bottom of the 90, and four men stoping the back of the same level, from which we are raising a pretty deal of ore. I regret to say, that some of our best pitches in this part of the mine have fallen off very much this month. At Palmer's, we have communicated the 80 west from the shaft to the end that was driving east from the winze; the sumpmen will now open a pit, to prepare for sinking below the 80—and we shall be driving west from the winze, in order to get under the ore ground, which we have passed through in the 70. We have now another winze in course of sinking below the 70, which is producing some good work for copper ore; we have commenced driving a cross-cut south on the cross-course, to cut the south lode. The lode in the 70 end west is 3½ ft. wide, worth 150 per fm.; the stopes, in the back of the level, are worth 160 per fm. A winze, which we are now sinking below the 60, is worth 100 per fm. I am glad to say, that our prospects in this part of the mine are very cheering. At the south mine, the caunter lode, from Chapples', has been completely cut off by a cross branch since last report; but to-day it has commenced improving—again getting into its regular course. The stopes in the back of the 90 are producing good work for copper ore. The pitch in the back of the 100, working at 2s. 6d. tribute, is looking well; the ends in this lode just now are producing but a small quantity of ore. The appearance and prospects on High-burrow lode continue much the same as for some time past. We shall be in course of forking the water below the 12 fm. level, at Wheal Providence, in three or four days more.—Oct. 11.

TRELEIGH CONSOLS.—Christie's shaft, below the 110 fm. level, is sinking in the country; the ground is favourable. In the 110, east of ditto, we are cross-cutting south, in search of more lode; in the same level, west of ditto, we are driving north-west, on the cross-course. In the 100, east of Garden's, the lode is 3 ft. wide, producing stones of good ore, and has a very promising appearance; in the same level, west of ditto, the lode is 2½ ft. wide, looking more promising, but very little mineral. In the 90, west of ditto, the lode is 18 in. wide, and more promising, worth about 60 per fm. In the 80, west of ditto, the lode is 2 ft. wide, worth 100 per fm. In the rise, above the 80 west, the lode is 2½ ft. wide, worth 800 per fm. In the 80, east of ditto, the lode is 2½ ft. wide, producing stones of ore, not to value. In the 70, west of ditto, the lode is 10 in. wide, without mineral. In the 60, west of ditto, the lode is 3 ft. wide, worth about 50 per fm., and has a very kindly appearance. In the adit, east on Wheal Parent, the lode is 20 in. wide, of a very kindly nature, with stones of ore, not to value. The new shaft for Wheal Parent lode is still in favourable ground.

WEST WHEAL JEWELL.—In the 57 fm. level, east of Williams's cross-course, on Wheal Jewel lode, the lode is 15 in. wide, worth 60 per fm.; ditto west, on the same lode, the lode is not taken down in the past week. In the 30 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is 15 in. wide, worth 60 per fm. In the 12 fm. level, west of Quarry shaft, on the same lode, the lode is 1 ft. wide, worth 50 per fm.; in the adit end, west of Quarry shaft, on the same lode, the lode is 15 in. wide, worth 80 per fm.; in the stopes, east of Pryor's winze, in the bottom of the adit, on the same lode, the lode is 4 ft. wide, worth 300 per fm.; in the shallow adit end, west of Quarry shaft, on the same lode, the lode is 1 ft. wide, worth 40 per fm.—Oct. 11.

WEST WHEAL MARIA.—The eastern engine-shaft is down below the 38 fm. level about 8 ft., where we intend to cut bearer holes, put in bearer and cistern, and fix lift; the lode in this shaft is 3 ft. wide, producing good stones of ore—a very promising looking lode; in this level, west of the shaft, the lode is 5 ft. wide, with good stones of ore, and promising further improvement. In the western engine-shaft the sumpmen have been engaged (clearing the last week) in dividing and casing the shaft, putting in penthouse, &c., in the 64 fm. level, preparatory to sinking under this bearer and cistern, which we hope to continue to-morrow. The lode in the 54 fm. level, east of this shaft, is about 5 ft. wide, producing a little ore in places; in the cross-cut south, in this level, there is no important alteration.—Oct. 12.

WHEAL ADAMS.—Herewith I beg to hand you our setting sheet for October month, by which you will perceive we have turned our attention to those parts where ones of different kinds can be raised, and have suspended operations more particularly in those places where immediate returns cannot be obtained. The lode in the rise, in the 60 fm. level, continues large; but it does not contain quite as much lead as last reported. We are now sinking on this part, in the 40, and expect to make a communication to-morrow, when we propose not only to resume raising jack, but to rise against Tonking's winze, sunk on the 40, on the eastern lode, and which was suspended in consequence of the water having been too powerful for manual labour, and, as

soon as this is effected, to endeavour to clear and secure the level, extended on the western lode, and thus lay open productive ground, which has for such a length of time remained unexplored. The 28, on the western lode, has been timbered, and four men has taken to work the ground on tribute, at 10s. in the 12, on the value of the lead only. We have also cleared the 18 fm. level, and, having reached ground, two men are fixed to raise gossan, containing sufficient metal to pay for returning; this may also lead to other discoveries, as I have been informed much whole ground is standing in this direction. The gossan raised from the eastern lode, in this level, last week, produces, by my assay—zinc, 7½ per cent.; copper, 2½ per cent.; silver, 17 ozs. 10 dwts. 9 grs. in a ton of ore.—Oct. 12.

WHEAL TRELAWNEY.—In the 52 fm. level north the lode is large, and worth 120 per fm.; in the same level south the lode is smaller, and not so good as when last reported, worth, at present, 70 per fm. The 42 end south is worth 80 per fm.—the ground is still hard; the lode at the same level north is worth 100 per fm.; the winze sinking under, and stopes in back, are much the same as was last reported. The lode in the 32 end north is increased in size, and worth 80 per fm.; stopes in back are similar to the former report. The stopes in the bottom of the 22 fm. level are looking well. We have about 6 ft. more to sink in Trelawney's shaft before we get to the 42, where we intend to drive a cross-cut to the lode, which, I expect, will be accomplished before the 42 fm. level, in Phillip's shaft, is driven as far north as Trelawney's shaft. At Vivian's shaft the 22 fm. level is suspended for the time, for want of air; the stopes in the back are poor at present. The winze is sunk about 9 fathoms below this level, and came to water. From the bottom of the winze we have commenced driving north, where the lode is 4 ft. wide, and much improved, worth at present from 100 to 120 per fm. Trelawney, in the 30 fm. level, which is about 2 fms. deeper than our winze, is much harder than was expected—consequently, we shall not have the benefit of it so soon as was anticipated.

FOREIGN MINES.

ANGLO-MEXICAN MINES.—Owing to the early departure of the packet from Vera Cruz, Mr. Brough was not able to get ready in time his monthly dispatches. He mentions, that the mine of Asuncion had again left some loss on the month's workings, and that Sirena (from which no profit had been received for a long period) had been surrendered into the owner's hands, so as to free the company from all liability as to that mine.

BAROSSA RANGE MINES (SOUTH AUSTRALIA).—Advices have been received from the agents of this company, extracts from which we are pleased to be able to lay before our readers. The prospects of this company appear more encouraging than of any other, and, we understand, the shares are at a considerable premium. Capt. Rodda, the managing agent, writes under date March 15:—“We have now taken possession of the Greenock Creek Mine, in which there is a good prospect, and which, I think, will pay well. The pit is composed of three sections, of 80 acres each; we have the length of the lodes for two sections, in which they have cut three lodes, and very good copper ore has been risen—one is sunk on for about 29 fms., making from surface, to about 19 fms. deep, the blue carbonate of copper, also the grey sulphure, with the red oxide of copper; but, from the 19 fms. downwards, it makes the grey and the yellow copper ore, and of very good quality. Another of the lodes has been sunk on for about 4 fms.; this has rich grey and yellow ores. The third lode is lately cut; it is a fine blue carbonate, about 3 ft. wide near the surface, and is connected and heaved about 12 fms. by a fine slide, which I like to see, as it is similar to the flookan, or slides, at the Barra Barra.” Another letter to the directors, dated 27th March, and written by Mr. Angus, gives particulars of the above mine, as to its favourable locality, for transit of ore, &c., from which we extract:—“It is in a good locality (say nine miles from Auguston), where Capt. Rodda resides, and, consequently, within his reach, and 12 miles from Gawler Town, with a splendid road to the port. The indications are very good, some tons of ore already raised, and the working grounds similar to Kapunda—soft and micaceous, and in the same run of strata. The ores are varied, and of good quality.” Besides this mine, we are informed the company have sections, holding out equally favourable prospects in the Mount Barker district, and adjoining the rich mine of Kanmuntou.

COLOMBIAN MINES.—Extracts from dispatches, received on 8th inst.:

MINES REPORT FOR JUNE.—Fantano Mine: ground good for driving—lode better. Cien Pecos: discontinued—rather poor at present. Gumburi: a good lode cut, and looks better for improving. San Antonio: the end of the lode discovered—good ore. Illingworth's Level: lode good, but very hard. Hurry's Rise: lode better for rising and for ore. Denance Level: clean, good cascajo. Edwards' Level: a good lode—clean ore. Ritchie's Level: an excellent lode, nearly 4 feet wide, of clean auriferous pyrites, is cut in the west end of this level, and there is every appearance that shortly many thousands tons of ore will be laid open in this station. Quibralone Mine: ground favourable for driving—air very good. Ore raised: 965 tons.

Superintendent to Agents, July 7.—We have laid open, in the San Francisco, at least 600 tons of good ore, at a cost of \$300. The only thing which at present causes the establishment to suffer, is the very bad condition of our machinery; and it is of the greatest importance that more mills should be erected; and, if I receive materials in a short time, we will have another 8-head mill at work on the establishment.

July 22.—*Gum Cotton.*—The reduction officer distilled over some nitric acid, and he and another gentleman, belonging to the establishment, succeeded in making some excellent gum-cotton, according to the specification in the *Mining Journal*, No. 607. Last evening a hole, in a very hard rock, was bored 30 inches, and a quantity of gum-cotton, in proportion of 3 parts to 8 of gunpowder, which would have been required, was put in—the results were most excellent, and the English and Germans present much pleased, as the rock was blasted in a very satisfactory manner.

Average produce per ton.—Respecting the low average produce per ton in fine gold, it has been to me a very painful subject; every thing in our power has been done to obtain better results. During the past five months I have closely and carefully watched and assayed different ores, and have always hoped for a higher produce; yet, at the close of each month, the returns proved to be low. At length I have succeeded in discovering the cause, and I am in hopes now to obtain better results. The reason why we obtain so little gold per ton from the present ore, is in consequence of the great quantity of sulphur of lead which the Marcato ores now contain. The Salto lode contains hardly any sulphur of lead, and more gold dust instead; and, for that reason, better returns were obtained from that class of ore—the gold having a greater specific gravity, produced better results per ton. By careful calculation, I have ascertained that the rough ore, on an average, contains at least 8 lbs. sulphur of auriferous and argentiferous lead per ton, which yield in gold alone 5 dwts; but, at present, we only obtain from the ton about half a pound, and this is the main cause of the present loss and low produce. Could we only obtain half the sulphur of lead which the ore contains, we would do excellently well. Some successful experiments have been made with the German table on Lavadero remains, &c.

Superintendent to Coast Agents, July 12.—*Export Ore.*—I have forwarded, to the care of the company's agent, at Nare, 30 boxes concentrated mineral, with the corresponding guila. As soon as you receive it, please forward the ore to the directors. I am in hopes to make, in a short time, constant remittance of ore for exportation to your house. I have now on hand about 30 cwt., and as soon as I receive the guila will forward it.

Returns for June.—Fine gold, 29 lbs. 5 ozs. 16 dwts.; fine silver, 17 lbs. 1 oz. 16 dwts.—obtained from 994 tons of rough ore and remains—the average produce of rough ore per ton being 7 dwts. 5 grs. fine gold.

NATIONAL BRAZILIAN MINES.—*Cocoes, August 13.*—There are eight good negroes driving towards Irving's former workings; this level will be driven considerably to the south, until the head wall of the lode is met with; and then, by keeping it always in sight, all the veins lying in that situation must infallibly be met with. There has been a very promising sample of the gold having a greater specific gravity, produced better results per ton. One of the samples alluded to was a very extraordinary one, which leads us to think that we are very near a good vein, coming down from the place last mentioned.

Produce from Cocoes, 3 mks. 5 ozs. 0 dwts. 44 grs.; Culata, 5 mks. 0 ozs. 3 dwts. 35 grs.—total, 8 mks. 5 ozs. 3 dwts. 27 grs.

IMPERIAL BRAZILIAN MINES.—*Gongo Soco, August 8.*—I regret that the Gongo Mine presents nothing new; and, as the captain's report has been a most meagre and uninteresting document for a long time past, without hope of present improvement, and as three of your four captains must remain at Bananal, I hope you will not disapprove of our having our future Gongo reports monthly ones—only with any improvement may render the present frequency again desirable. At Bananal, since my report of the 24th ult., we have been occupied in securing the ground we had previously staked through. I will add, in a postscript, news of our proceedings to the last moment. I regret that our estimate of the value of what we had previously extracted was an exaggerated one, owing to our inexperience of the nature of the gold and its matrix. You will see that we have obtained only about 24½ lbs., instead of 40, as we had hoped.

P.S.—Bananal, August 4, 3 P.M.—I have this moment left the bottom of the mine; we have taken out three boxes full of work, and a fourth is nearly so; the work, however, is not very rich, nor is the vein at this moment so productive as it has been. The vein varies from a mere line to about 3 in. wide, and, for about 4 ft. in length, it is spotted with gold; this, however, we fully believe is but temporary, and by no means diminishes the confidence of our hopes, as it looks kindly, and, whilst I write, we are continuing to take out gold.

Gongo Soco, August 9.—During the night of the 2d, we continued to break gold at Bananal, so that the box, partly filled when my letter closed, was entirely so, and another in like manner—making, in the whole, five boxes of work since the gold returns were closed. We had by that time excavated the vein as far as possible; and before more could be done to it, the contiguous stone would have to be removed, and the rocks ad-joining supported with timber, so that we do not expect to touch the vein again until to-morrow. Two of the above-mentioned five boxes have been washed, and have given 4 lbs. 1 oz. 12 dwts. of gold; the other three, which are here, are thought to be somewhat better—they will also be cleaned to-day. We left the vein gold throughout for about 4 feet long, but it is rather narrower than it was at first; this alteration does not, however, at all discourage us, as we believe it only one of the variations common to veins of every description, and the mineral character continues to be highly flattering.

August 13.—I regret to say, Gongo Mine presents nothing worthy of notice. On the 6th inst., I requested all your captains to prepare a statement, for transmission to you, of their opinions relative to further trials, and their suggestions for the most beneficial arrangement of our now greatly reduced force, having especial regard to the employment of the women and children, for whom no accommodation can be prepared at Bananal during the present year. It will, probably, require 18 or 20 labourers, I hope to forward document (as they are so engaged at the new mine), which, however, I left this place for on the 2d inst. An additional force of 3 Europeans and 30 labourers, left this place for the Bananal on the 9th inst. The adit is proceeding rapidly, in favourable ground, and the excavation of a pit for our new water-wheel has been commenced. Owing to the influx of water, Walker's shaft has of late been sunk slowly, and a pump is now being placed in it, and our progress will be far more rapid for the future. Several trivial conferences we have interfered with our taking out gold, but these have been overcome, and I hope we shall proceed regularly, so long as our machinery can master the water; my only fear at present is, that it may increase too fast for our present power, and overcome us before the new wheel and its appendages are in order. I have much pleasure in referring to the gold returns, and will add, in a postscript, news to the latest moment possible.

WHEAL PROSPECT—MORVAH AND ZENOR

Sir,—I occasionally see your valuable and ably-conducted Journal, and I am induced to take advantage of its extended circulation, for the purpose, if possible, of eliciting some information respecting two mining concerns in Cornwall, in which a friend of mine was induced to become an adventurer some 14 years ago. In the Wheal Prospect Mines, near Hayle, in Cornwall, he took 3-64th shares, nominally of 80s each, but, in reality, of 120s each, for he paid 360s. in nine successive calls, of which sum he, however, received back 337. 10s. from the sale of the materials, leaving him a dead loss of 274. 10s. principal money, besides interest thereon. In the Morvah and Zenor Tin Mines, near Penzance, he was at the same time prevailed upon to take 2-100th shares, upon which he paid no less than 12 calls, amounting together to the sum of 268s., of which sum he received back again only 12s. from the sale of materials—leaving him minus 256s., exclusive of interest. Here, Mr. Editor, is a statement, showing a total loss of principal money to the amount of 580s. 10s., exclusive of interest, and that, apparently, without remedy, or even the melancholy satisfaction of knowing how it has gone. I believe that both these adventures were under the management of the same captain or pursor, or by whatever name such persons are designated; it may be, that no sort of reflection can attach to him, or any one else connected with them; but it is a sad reflection upon my friend's good sense, in suffering himself to be guided into concerns, of which he could not have any knowledge whatever. If, through this inquiry, any information can be obtained, as to whether these mines are really defunct, or whether they are yet in possession of the adventurers, with the prospect of being either sold, or brought again into operation, my friend will be greatly obliged to the informant.—Omicron: Oct. 3.

WHEAL ANNA MARIA.

Sir,—In your last week's Journal, I noticed a paragraph from the *Western Luminary*, in reference to the above mine. I should feel much obliged, if some of your correspondents would give me and the mining world, through your Journal, some particulars of the concern. It is much to be regretted, that a mine, possessing such indications as the *Luminary* gives it, should be so little known. I am aware, that golden visions, of much magnificence, have been floating through the brains of those who have been induced to purchase shares; but whether these visions have any other foundation than the promises of those fortunate individuals who have sold shares, I cannot determine, nor have I met with any one able to inform me. The bonus they have paid for their shares, and the calls they will have to pay, will convince them it is something more than "the baseless fabric of a dream."

I cannot deny the assertions of the "native geologists," as to the existence of mineral deposits in the neighbourhood of Dunsford, but until their researches are made known to the world, the opinions of the "native geologists" are of little value. I have also seen stones of mudiic, &c., from the mine; but, not being possessed of the far-seeing power of the *Luminary*, I failed to discover the beautiful marking of copper—they may have an existence, nevertheless.

I write, Sir, for information. If the mine really possesses the indications it is said by some to possess, I wish it success most heartily; but if it is the valueless thing others represent it to be, the sooner its real character is known, the better for the shareholders—the better for mining generally.

Let it be inspected and reported on by some man of practical knowledge and known integrity—one who knows a mineral deposit when he sees one. We shall then know on what foundation we build our hopes.—NIKA: October 14.

CARADON WHEAL HOOPER MINE.

Sir,—In perusing your valuable columns, I find that I am not singular in opinion respecting large beds of mudiic, which is so often found in copper lodes. Nothing is more evident than that some of the most productive lodes, in this and other counties, have been those where large quantities of mudiic have been seen in them at shallow levels, under which is frequently rich deposits of copper. It is an old saying, and a true one, that "mudiic rides a good horse," and that particularly where copper is to be seen amongst the mudiic. Such instances as this have come under my notice in many mines in this county—such has been the case in Great Consols, Fowey Consols, Par and Wheal Mary Consols, East Crinnis, West Crinnis, Holmbush, and many other mines. I have been an underground miner upwards of 33 years, and, during that time, I have worked on tribute 28 years. I never knew one instance of this kind as yet to fail in being productive, where the lodes have had a fair development. Many good mines have been abandoned for the want of spirit to go deep enough, especially when there is much mudiic in the lodes at shallow levels. I make these few preliminary remarks on mudiic, hearing it objected to by some of late here—we having a lode of the very same character as I now speak of, and such as I have seen make large quantities of copper at deep levels. I am well assured, that the lode I now allude to will make an abundance of ore, if we were to cut it down 10 fms. deeper, as there is granite in the bottom of the level where we are now driving to, and from which we have taken some very fine stones of copper. There has been a lode extended on the course of this lode 34 fms.; we find it to be regular, compact, and a very promising lode, from 20 in. to 2½ ft. wide in the bottom, but not so wide in the back; its composition is large quantities of rich-looking mudiic, with felspar, peach, prian, quartz, and good quality copper. Wheal Agar is much improved of late; this lode is cut in South Caradon—a promising lode indeed, with rich copper in it; this, too, greatly enhances the value of this mine, as it passes through the centre of it. I may almost say that, in driving on the course of the lode, we have met with two crosses and a slide. This is an object of no small importance to the shareholders, as the ore in the neighbouring mines is frequently found about the cross-courses. When I look over this little promising piece of ground, and calculate on the number of lodes that are in it, I cannot but compare it to a rich meadow in the middle of a fertile estate. Had I the means, I would purchase all the shares that could be got for 20s. per share, so strong is my confidence. I hope that the parties holding shares in this mine for a long time will not get uneasy, and sell their shares, though they may have an offer of a premium. I say to one and all of you, "hold fast, and you will be rewarded." I thought of cutting one of the south lodes as this; but the lode we have been driving on has taken a more easterly course than at first; this accounts for the delay. It is expected to cut Daw's and Carpenter's lodes in about four weeks; these two, I think, have formed one, or we should have met with Carpenter's some fathoms back; this is an object of no small importance, as both are very large lodes, with encouraging indications. The ground in the north end is much the same as last reported, except the cross-course is much larger; this does not case the ground much, though it is 2 ft. wide. We expect to cut here the saw-pit and Seymour's lodes in about five months.—JOHN SEYMOUR: Liskeard, Oct. 12.

CEMENT FOR BUILDING PURPOSES.—Various descriptions of cement have been introduced of late years, whether applied to buildings as a mortar, or in covering them by way of surface, giving at once the appearance of stone, and, at the same time, rendering the wall to which it was applied impervious to water. The economy attendant on its use is too readily recognised to require anything more than a passing observation; while importance must be attached to the discovery of any material of the kind which combines with it the several properties required, and which may, at the same time, be acquired at an easy cost. Our attention has been directed to this subject from the proved superiority of a cement, found in the immediate vicinity of Holywell, Flintshire, known as the Carth-y-foel Quarry. On visiting the district, we obtained a specimen of the clay when manufactured, as also the timber which is found in connection with it; the latter forming the matrix of the vein or bed, if we may use the term, in which the nodules, or detached rocks or stones, of cement are found. Its value, as evincing its superiority over other cements of a like nature but inferior quality, may be inferred by the fact, that contracts have lately been entered into for a supply by the Chester and Holyhead Railway, and it being now employed at the new station, in Chester, and also in various public buildings and warehouses in Manchester. We are given to understand that it will admit of one-third addition of common sand; but this we think a false economy, inasmuch that it is calculated to depreciate in public estimation the value to be attached to the cement itself, affected as it must naturally be by the nature or quality of the sand employed in the admixture. The cement is found in a fractured stratum or bed, with torn and fractured shale over and underlying it—the bed or seam being from 3 ft. to 3 ft. 6 in. thick, which enters the hill, having an inclination to the east, and with a dip or underlie of 1 in 8—the water passing away from the adit or opening on the seam being worked to the rise, and thus rendering any water or steam-power unnecessary. An adit level has been driven about fifteen fathoms, and the present end or opening of the quarry is about four fathoms from the surface. The cement obtained from the seam, or stratum, in which it is found, combined with timber, to which some value is attached, but which we do not press to understand sufficiently to enter into detail, is found in rocks in the bed; and, on being brought to surface, is broken to the size of the stones used for our Macadamised roads, and then burnt in a kiln, similar to that used in the burning of lime; having been drawn from the kiln, it is again reduced into smaller particles, and placed into a grinder, or crusher, so as to be reduced into a powder, which requires only the addition of water to bring it into that state, which will admit of its moulding or manufacture to the several purposes for which it may be required. The cement, when ground, is sold by the barrel, weighing somewhere about 3 cwt., at 12s. per barrel, and at which price it would appear to be in demand. As regards the manufacture of the material, whether into a plastic clay, cement—indeed, any other purpose—or applied to modelling, statuary, or otherwise—we find that an extensive establishment, under the control of Messrs. Bowyer and Bell, exists at Chester. We merely give the results of inquiry and investigation, on a visit to the neighbourhood; at the same time, that we may observe, specimens of the clay and timber may be seen on application at the office.

INCREASE IN THE IMPORTATION OF METALS AND COAL INTO FRANCE.

Notwithstanding the heavy duties on the importation of these articles into France, there appears a decided increase in the arrivals during the present year. Up to the 30th ult., the importations of raw cast-metal was 850,000 met. quin.; copper, 50,000; and zinc, 95,000. Coal, 16,500,000 met. quin. This increase in metal and fuel is accounted for, in some measure, by the development of railways, and the great consumption of both by the Northern line, which chiefly employs foreign coal; and, secondly, that Belgian and English cast-iron is now principally used in all the forges in the Northern Department in the manufacture of machinery, rails, &c.; as to zinc, also, it is now becoming so much in use that, in a few years hence, it is expected to supersede lead, as it can be employed in so many different articles at a cheaper rate, and is far more durable. The forges and high furnaces of Liege, and other parts of Belgium, have rarely been so active as at present, and the demands for iron, cast-metal, and zinc are very considerable. The forgers of France begin now to be pretty well convinced that they cannot meet the quantities required by the different railway companies, although the Minister favours them by levying a duty, next to prohibition, on English and Belgian industry. The consumption of coal throughout the 86 departments of France has increased in an extraordinary proportion, as in 1838 it was 48,048,870 metrical quintals, whilst in 1847 it will be more than 65,000,000. The department of the Upper Pyrenees is the only one which does not contain coal; in the Morbihan it has increased by 600 per cent.; in the Vendée it has quadrupled; tripled in the Aube, Upper Garonne, the Landes, and the Yonne; and doubled in 24 other departments. The basins of the Loire, Allais, Creuzot, Blanay, Aubin, Commeny, Valenciennes, and others, produce, on an average, about 42,000,000 metrical quintals, a portion of an inferior quality—so that the remaining 23,000,000 (or more than one-third) is imported from Great Britain, Belgium, Prussia, Rhenish Bavaria, &c. The quantity of British coal has increased from 1,146,884 metrical quintals in 1838, to about 6,000,000 in 1847.

EAST ALVENNEY.—We have now got 6 or 7 inches of solid tin in our shaft, worth about 70s. per fm.—this is likely to continue, and is sufficient cause for the improved quotation.—A letter received this morning says—"The lode is greatly improved; we have intersected another branch of tin, 2½ in. big—solid."

GRANBLER AND ST. AUDY.—At a meeting of the adventurers, held at the account-house on Tuesday last, the accounts, of which the following is an abstract, were passed:—Balance due on last account, 551s. 6s. 5d.; costs and merchants' bills, 968s. 17s. 11d.—1520s. 4s. 4d.—Ores sold (less dues), 962s. 17s. 9d.—Balance due to pursor, 557. 6s. 7d.

We have received an account from Wales, relative to the temporary embarrassment of a large iron company, having very extensive works in South Staffordshire. It appears, that the operations of the company have been on an extensive scale, and their engagements large. Some bills are at present due, or on the eve of maturity, and applications have been made to the holders to renew them, but without effect; and it is said that circulars have been issued, calling a meeting of the proprietors, for the purpose of considering the propriety of making another call, or winding up the affairs of the company. It is generally thought the latter course will be pursued; and, if so, the utmost reliance may be placed upon the assets yielding all demands in full upon the house. That considerable injury must arise from the stoppage of the works of this company, may be inferred from the fact, that they now employ a number of hands, amongst whom, it is not too much to state, that little, if any, less than 3000s. per week are distributed in wages.

SOUTH AUSTRALIA.—The accounts lately received from this colony continue of a very favourable character. The produce of the copper mines is exceeding all previous estimates: within the last fortnight there have arrived at Swansea three large vessels from Port Adelaide, laden with ore; while the latest accounts bring information that 2000 tons more were ready for shipment. These discoveries, in addition to the other more ordinary occupations and productions, have had a favourable effect on the commerce and public revenue of the colony—so that the exports in 1846, being the growth or production of the colony, amounted to 287,059s., being at the rate of fully 33s. per annum for each male adult, besides producing all the necessities of life in such abundance as to render the colony entirely independent of imported food. The ordinary public revenue, for the quarter ending March 31, 1847, was 17,377s. 19s. 1d., while the ordinary expenditure was 12,897s. 0s. 4d.—showing a surplus for 3 months of 4,480s. 18s. 9d. Fears have been entertained in England that, amidst so much excitement as the mineral discoveries have occasioned, the cultivation of the soil would be neglected. It is gratifying to know that this has not been the case in any degree—on the contrary, that vitally important department has been progressing *pari passu* with the increase of the population, and the advancement of the colony in other respects.

THE COAL TRADE.—Newcastle has sent 576 cargoes of coal to the Baltic alone this year; Sunderland, 179; Hartlepool, 134; Stockton, 94; Hull, 32; and Liverpool, 8.—The total number from these and all other British ports has been 1241.

EDUCATION IN THE MINING DISTRICTS OF IRELAND.—It is much to be regretted, that, from motives into which we will not inquire, the school-house at the Meeting in the Vale of Ovoca, the seat of mining industry, and which gives employment to 1200 or 1500 souls, has been abandoned. The district, embracing the mines of Ballymurrigh, Ballygahan, Cronebane, Tigrany, Connor, and Kilmacow, is populous, and, at a time like the present, education, next to employment, ought to attract the attention of the philanthropist and resident. We have not space, on the present occasion, to dilate on the subject; but, having taken up the subject of mining in the *Sister Isle* (some remarks on which will be found in another column), we content ourselves by stating, that Mr. West, of the Meeting, has expressed his intention to establish a school in the locality, to which Mr. H. English, Capt. A. Francis, and others, have already expressed their intention of contributing—which, aided by the money that may be fairly calculated upon from the several mines, the lords, adventurers, and agents, and the gentry, will, doubtless, supply that locality with the means of spreading education—the blessings attendant on which appear to have been so capriciously and improperly withdrawn. We trust the example thus set will be followed in other districts, and thus rescue Ireland from a charge of an inclination on the part of those who possess means, to be regardless of the interests of those who possess not the means of acquiring knowledge.

ROCKFORD LEAD MINE.—We understand, that a specimen of ore sent to London by Mr. Swanton, for the purpose of being assayed, yielded 75 per cent. of lead, and 3 ozs. of silver to the ton. Capt. Eddy, mining agent to the Duke of Devonshire, is shortly expected there, for the purpose of making a minute investigation into this important discovery. Should the lodes prove large and continuous, an amount of employment never before witnessed in the neighbourhood of Inghamman will be the natural result, while the railway companies will derive large returns from the transit of ore.—*Irish Railway Gazette.*

PEEK INTO A WELSH IRON VALLEY.—Let us look nearer at the village. Let us peep a little into that double row of houses, just beneath us. What huts these houses are! How irregularly built! Doors that enforce the decorum of a saloon, not without record of the lesson remaining on the list of him who is rude enough to enter covered. Windows a foot or so square; one-half of many of them not glazed, but wooden. Small sleeping-rooms, small eating-rooms, we guess, are these. The row seems populous too. What miserable little bits of garden ground! What wretched fences—irregular, tumble-down compounds of stick and stone. What indescribable little crevices all about, indeed, of stick or stone, for purposes the most varied. What old barrels lying down to hold dog or hog. What old barrels standing up to hold coals, or the brock of swine. What cow-houses, dog-houses, horse-houses, dog, duck, and hen-houses. What porkers with their farrow, grunting about. What asses standing motionless, statuesque. What busy children. What fun that wicked one is having, who has thrown himself sack-wise across that astonished porker, and is thus being half-dragged, half-carried. A larger party are busy tormenting a poor donkey. What fun they have—boys and girls, and pigs, ducks, donkeys, and dogs. How the women bustle! carrying water, firing ovens, running about the outside of their houses, washing out tubs, spreading clothes upon their bits of hedges, picking up squalling infants who have tumbled in the gutter, rescuing bloody-nosed urchins from skimmishes—nay, there are two skimmishing themselves! What gesticulation! What words! The very men, who are by chance about, sink into their houses in the purest shame. And this, then, is a Welsh iron valley. Behind us, in that mountain, are quarries, clinking with the hammers of those that hew the lime to fix the ore. In the bowels of the earth, beneath our feet, are men, half-naked, cutting, by the light of candles, from the walls of narrow chambers, coal, to form the coke which melts it. But, perhaps, they are idling now. Assembled in some common passage, illuminated by the combination of their candles, they sit them on the ground, smoking their pipes, drinking their beer, while water all around drips from the roof; explosive gas murmurs through bubbles on the walls, or, here and there, in a considerable stream, blows loudly through a blow; the dark mineral glitter on the lading train; and terriers, roared by their master's victims, bay the rats from them. Miners, too, beneath our feet, with pickaxe, or with blasting-powder, loosen from the earth the ore. Others, through long passages, drag in darkness the minerals to the light. Boys of eight or nine, or younger, spend the day by doors that guide the current of the air, which is the life of all within. By locomotive along railway, or by horse or tram-road, these materials of lime, and coal, and ore, are brought to the furnaces. Stout wenches, with huge hammers, break suitably the lime and mine. Others assist the coking of the coal. The siller hears his barrow of mine, or lime, or coke, into the crackling flame of the blast-furnace. At the bottom of the furnace the moulder lays his moulds. The furnace is tapped; the molten brilliance flows forth in a solid stream, filling up, one after one so taking, its appointed channels. Lank figures of freemen, there, in the forge, reheat the metal. Their thin, swarthy, sweat-dripping faces gleam in the light of the open oven, as, ever and anon, with long rods, they poke the melting mass. How the white-hot mineral flashes hither and thither all about the forge! How it sprouts and sparkles beneath the hammer! How beautifully, red-hot, it is gradually rolled into long bars by the wheels of the rolling-mill! Along canal, tramway, or railway, the finished metal is now carried to the port, whence it is shipped to civilise the world. And these workmen have all cottages, and wives, and families. And there are agents, and master-men, and gaffers, to rule and guide them. And there are shopkeepers to feed and clothe them. And there are lawyers, and surgeons, and druggists, to minister, each of his craft, to them. And there, in London, is the flower, the blossom of the whole, the Iron King himself, whose task it is to find a proper outlet for the labourer of the valley. Sorry are we that, amongst all these functionaries, the school-master may not be named; but the way is clearing for him, and there is work for him. Such are the elements of Welsh society: few, simple, most easy of dissection, were it our present task to do so.—*Jerrild's Map.*

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.	
Bank Stock, 7 per Cent., 180 3/4	Belgian Bonds, 4½ per Cent., 86
3 per Cent. Reduced Ann., 79 1/2	Dutch, 84 per Cent., 53 1/2
3 per Cent. Consols Ann., 80 1/4	Brazilian, 5 per Cent., 73
3 per Cent. Ann., 80 1/4	Chilian, 5 per Cent., 73
Long Annuities, 81	Mexican, 5 per Cent., 17 1/2
India Stock, 10½ per Cent., 329	Spanish, 5 per Cent., 16 1/2
3 per Cent. Consols for Acct., 83 1/4	Ditto 3 per Cent., 36 1/2
Exchequer Bills, 1000s. 3d., 28 1/2 ds.	Portuguese, 5 per Cent., 75
	Russian, 5 per Cent., 103 1/2

The following tabular statement of the prices at the last settlement of account, compared with that of Thursday last, will show the fluctuations which have occurred, and indicate the depreciation in value of the several stocks, at the selling prices:—

Stock.	Last Account, Aug. 26.	This Account, Oct. 14.	Decrease.
Bank Stock	196 1/2	178 1/2	18 1/2 ex div.
Three per Cent. Reduced	81 1/2	79 1/2	2 1/2 ex div.
Consols	81 1/2	81 1/2	0
Three and a Quarter per Cent.	87 1/2	81 1/2	6 1/2 ex div.
India Stock	329	320 3/4	8 1/4
Exchequer Bills	28 1/2	28 1/2	0

The same causes that have acted on the funds have affected the share market. The following table, showing the prices of the under-mentioned shares at the 26th of August, compared with this date, and stating the amount paid up per share, will exhibit the extent of the fluctuations, and show the great depreciation that has occurred in railway property. Some of the shares present an apparent increase of price, as with the Caledonian; but, in this case, the amount of the call made since the last settling in Consols must be added. The actual depreciation is shown by reference to the third column, stating the amount paid-up:—

Railways.	At Aug. 26.	Last price.	Amt. paid-up.
Aberdeen	230	227	240
Caledonian	321	324	320
Eastern Counties	184	181	20
Edinburgh and Glasgow	66	47	50
Great North of England	331	216	100
Great Western	111	93	85
Hull and Selby	103	97	50
London and Blackwall	6	4	16 1/2
London and North-Western	163 1/2	149	100
London, Brighton, and South Coast	484	384	50
London and South-Western	60	63	41 1/2
Lancashire and York (M. & L.)	96	79	82
Midlands	116 1/2	102	100
Norfolk	115	90	100
South-Eastern and Dover	34 1/2	26	33 1/2
Waterford and Kilkenny	64	41	13 1/2
York and Newcastle	244	20	50
York and North Midland	77	68	50

MINES.—Even amidst the continued failures of old commercial houses, the unparalleled depression of the funds, and the ruinous fall in the value of railway speculative property generally, we have much gratification in learning that the mining share market maintains a firmer position than could possibly have been expected under these peculiar events. The business in the share market, this week, has been well supported, and several large transactions have taken place, whilst many others are in course of negotiation. We may, therefore, fairly assume that capitalists have discovered that mining property, when purchased under the influence of precaution and discretion, may be considered a far safer investment than usually contemplated.

While we notice, with much regret, the lamentable calamities which are daily reducing to insolvency firms of the highest respectability, in connection with our commercial interests, we have much pleasure in asserting, that but little injury has yet fallen on our mining property—more than the tendency which a strained monetary market will produce on property generally; and, even in this, we may only calculate on a brief influence—for the discerning capitalist will now discover the advantages of possessing metallic substances over dishonoured bills, even shackled, as we are, by a melting monopoly.

We have noticed, with regret, the fall in the standard of last week, and to trace the least apparent justifying causes we feel ourselves wholly inadequate, more than being within the power of an insatiate and tyrannical monopoly. This circumstance will, no doubt, curtail the operations of some of our best mines; rather than submit to such a sacrifice, they will return no more ores than will simply cover the expenditure of working.

Stray Park and Camborne Vean adventurers met on the 8th, when a dividend of 20s. per 1000th share was made, reserving a balance of nearly 1000s. in hand, being the profit of four months' working.

Trehane declared a dividend of 1s. per share on the 12th, and the mine looking well.

In Treviskey and Barrier considerable business has been done during the week. Some weeks since we called attention to the large amount of interest paid by this promising adventure.

Condurow meeting, held on Tuesday last, showed a profit of 160s. on the last two months' working, and the mine generally improved.

There has been a demand for Trevean shares, and several have changed hands at an advanced price; this has arisen in consequence of the gossip on the back of the lode having been found strongly impregnated with silver. Caradon Wheal Hoopers have been inquired for during the past fortnight, from an improvement lately made in Wheal Agar—the main lode of which mine passes through the set.

We hear that the majority of the 3s. 10s. shares in the New Great Wheal Martha are taken; and we hope, by the 23d of the month, the whole list will be filled up. The shares are to be payable by instalments of only 10s. at a time—while the mine presents prospects of very successful results.

The following shares have been transferred this week—viz.: Treviskey and Barrier, Trehane, Trethellan, Callington, Polsoath, Caradon Wheal Hooper, Venland, Holmbush, Bedford United, South Tolgus, Mendip Hills, Trevean, West Seton, Marke Valley, Condurow, Tremayne, Comb-laws, Wheal Ash, East Alvenney (tin mine), &c., &c.

In the foreign share market we learn that Altona, Imperial Brazilians, the Australians, St. John del Reys, and Bolanos have been done. A large number of Australians have changed hands since our last, at various prices, and there is still a demand for them.

The Imperial Brazilians continue to look well—the reports from the mines being highly satisfactory.

Despatches have been received from the Mexican, Colombian, Brazilian, and South Australian Mines—copies of which will be found in another column. In addition to which, we have seen private letters, where "Greenock Creek," the property of the Barossa Range Company, is spoken of in the highest terms, as to general appearance; they have cut four lodes of great importance, and sunk five shafts, one is 30 fms. deep, and the lode on the back is 18 feet wide. We have seen some excellent stones of ore, which are evidently from a strong masterly lode.

NEW PATENTS.

Sir J. S. Little, Fulham, Middlesex, knight, for improvements in machinery applicable to tillage, and for agricultural purposes.
T. Horne, Birmingham, for certain improvements applicable for carriage windows.
J. T. Harradine, Hollywell-Cum-Needlingworth, Huntingdon, farmer, for an improved agricultural instrument for preparing land in various ways, for agricultural purposes.
D. Fisher, Clerkenwell-green, for improvements in the manufacture of boots and shoes.
F. Lloyd, Snow-hill, for improvements in the preparation and manufacture of tobacco.
M. Curtis, Manchester, machinist, for certain improvements in machines used for preparing to be spun and spinning cotton and other fibrous substances, and for preparing to be woven, and weaving, such substances when spun.
B. Beniowski, Bow-street, Covent-garden, Middlesex, for certain improvements in the apparatus for and process of printing.
J. Maudslay, Lambeth, Surrey, for certain improvements in the manufacture of candles, parts of which improvements are applicable to the manufacture of other moldable substances.
A. V. Newton, Chancery-lane, Middlesex, for an improved machinery for blooming iron.
A. Wall, India-row, East India-road, Middlesex, for a new or improved apparatus for, and method of, separating oxides from their compounds, and each other.
R. S. Newall, Gateshead, Durham, for certain improvements in machinery for grinding grain, paints, and other substances.—*Mechanics Magazine.*

The South Westerns have lately issued instructions, directing—"That every engine-driver, and every guard of the mail, goods and other night trains communicate by an exchange of signals with every station and gate-keeper, whether the trains call at such station or not; and that further, if necessary, additional men be appointed to that duty."

GAS-LIGHT AND COKE COMPANIES.

1,200 British (London)	218	218	218
1,000 Ditto (country)	15	15	24
1,000 City of London	100	10	200
1,000 Ditto New	100	10	210
4,000 Equitable	50	3	24
10,000 European	20	1	18
12,000 Gas-Light and Coke Chartered Co.	50	6	57 50
1,000 Ditto New	100	3	100
9,000 General Union Assurance Co.	50	3	17 10
10,000 Imperial	50	6	80
46,400, Ditto Debentures	100	4	100
8,000 Imperial Continental	25	4 1/2	61 63
7,000 Ditto New	28	4 1/2	61
54,500, Ditto Debentures	100	5	100 102
1,000 Investment	50	5	50
1,000 London	50	6	50 51
3,000 Ditto	50	6	60
9,000 Phoenix, or South London	43	5	33
1,000 Ratcliff	80	5	75
4,000 South Metropolitan	25	6	31 31

<i>Shares.</i>	<i>Companies.</i>	<i>Paid.</i>	<i>Div. p. cent.</i>	<i>Price.</i>
10,000	Assam Tea Company	£20	—	\$ 3
1,080	Auction Mart	—	£ ½	36 28
10,000	Australian Agricultural	30	1	20 22
10,000	Australian Trust	35	—	30
8,000	British Alkali	29	4	16½ 16½
10,000	British American Land	35½	—	14
8,600	British Rock and Patent Salt	35	18	—
9,915	Canada	37½	—	28½ 30
—	City Bonds — Navigation	—	3½	18
1,800	Corn Exchange	37½	1½	26½
5,000	Droitwich Patent Salt	25	½	11
2,700	Equitable Reversionary	95	4½	87 80
—	General Reversionary Interest	100	5	104 106
0,000	General Steam Navigation	14	18*	22
—	Hudson's Bay Stock	—	10	230 240
2,100	Hungarian Male Manufacture	100	—	—
1,500	London Commercial S. & W. Ins. Co.	—	1½	31 32
8,000	London Reversionary	25	—	23 24
300	Margate Pier	—	10	196
10,000	Mexican and South American	7	—	3½ 4
20,000	New Brunswick	75	—	11
11,600	Penninsular and Oriental Steam	50	7	57½
5,600	Doitto	40	—	—
5,387	Roadside Interest Society	100	4½*	97
—	Royal Mail Steamer	—	5½	52
8,000	South Australian	25	—	—
20,000	Upper Canada	100	5	93 94
20,000	Doitto	20	5	93 94
10,000	Van Diemen's Land	30	—	3 4

* Those marked with an asterisk (*) are dividend per share.

LEAD ORES.				
Sold at Holywell.				
Mines.	Tons.	Amount.	Purchasers.	
Peel	60	£10 0 0	Walker, Parker, & Co.	
ditto	60	10 0 0	Mather & Co.	
Sold on the Mine.				
East Wheal Rose	73	£14 13 0	MicHELL & Son.	
ditto	9	9 18 6	ditto	
ditto	23	15 8 6	ditto	
Sold in Wales.				
Llanfair	24	£25 0 0	MicHELL & Son.	

Mines.	Tons.	Price per ton.	Purchasers.
Wheal Anderton.....	2½.....	41 5 0 ..	Calenick Smelting Co.
ditto	½.....	26 5 0 ..	ditto

COPPER ORES.

Mines.					Price.					Mines.					Price.				
	Tons.		£	s		Tons.		£	s		Tons.		£	s		Tons.		£	s
Carn Brea	132	...	£	1	6	Wh. Rodney	9	...	20	9	6								
ditto	98	...		1	6	ditto	7	...	9	10	0								
ditto	97	...		6	18	6	West Wh. Prosper	38	...	3	6	0							
ditto	93	...		7	15	6	ditto	12	...	1	0	0							
ditto	92	...		7	15	6	Gwinear Consols...	20	...	2	11	6							
ditto	91	...					ditto	43	...	2	8	0							
ditto	84	...		13	12	6	ditto	20	...	1	11	0							
ditto	83	...		9	17	0	Wh. Tremayne	63	...	9	12	6							
ditto	82	...		9	17	0	ditto	38	...	2	16	0							
ditto	81	...					ditto	21	...	8	0	0							
ditto	71	...		4	11	0	Wh. Agar	89	...	4	1	6							
ditto	70	...					ditto	4	...	4	6	0							
ditto	63	...		15	0	6	ditto	25	...	9	11	0							
ditto	46	...		0	16	0	North Wh. Basset	38	...	5	16	0							
United Hills	94	...		3	9	0	ditto	20	...	18	17	6							
ditto	84	...		3	7	0	Wellington Mines	26	...	5	9	0							
ditto	66	...		6	17	0	ditto	12	...	16	2	6							
Wh. Sparrow	61	...					ditto	42	...	12	6	0							
Par Consols	87	...		7	15	0	East Reliance	49	...	12	17	6							
ditto	81	...		7	15	0	Wh. Jane	30	...	3	7	0							
ditto	75	...		7	0	0	ditto	8	...	2	14	0							
ditto	60	...		7	6	0	Trenow Consols ..	16	...	3	16	0							
Wh. Prosper	69	...		4	5	6	ditto	10	...	4	2	0							
ditto	67	...		3	9	0	Micshell's Ore	24	...	3	2	6							
ditto	59	...					East Seton	11	...	6	11	0							
ditto	58	...		5	18	6	Polgooth	13	...	6	2	0							
ditto	39	...		1	11	6	Wheel Darrington..	11	...	2	18	6							
Wh. Rodney	53	...		3	3	6	Copper Bottom	8	...	3	0	0							

Corn Brea	311	...	£807 8 0	North Wh. Bassett	58	...	£507 18 0
United Hills.....	313	...	£104 9 6	Wellington Mines.....	49	...	469 6 0
Wh. Sparrow	313	...	2325 2 0	East Reliance	42	...	162 18 0
Wh. Prosper	352	...	1152 9 0	Trenow Consols	16	...	101 15 0
Wh. Rodney	145	...	335 19 0	Mitchell's Ore	24	...	75 0 0
W. Wh. Prosper	143	...	321 9 0	East Saxon	21	...	116 11 0
Wh. Prosper	143	...	321 9 0	East Saxon	21	...	116 11 0
Wh. Tremayne	122	...	880 15 0	Wh. Darlington	11	...	32 3 0
Wh. Agate	90	...	503 11 0	Copper Bottom	8	...	24 0 0

Average Price per ton £6 0 0
 Quantity of Ore 2889 tons. | Quantity of Fine Copper, 267 tons 14 cwts.
 Amount of Money £17,351 18 6
 LAST SALE.—Average Standard.....£102 6 0.—Average Produce..... 7½

	Tons.	Amount.	
Vivian and Sons.....	684	\$4644	8 6
Freeman and Co.....	538	3749	0 6
P. Grenfell and Sons.....	363	1893	0 6
Crown Copper Company.....	26	17	0
Stims, Williams, and Co.....	418	2268	0 6
Williams, Foster, and Co.....	837	5389	0 6
Total tons.....	2889	\$17,841	18 6

Caradon 285—Fowey Consols 263—Wheel Frithling 245—Marke Valley 230—West
Wheel Jewel 174—Bodford United Mines 117—Holmbush 84—Ting Tang Conok 30—
Gomenneth 27—Wheel Goutland 19—Hawkmoor 7.—Total, 2897 tons.

Copper ores for sale on Thursday week, at Farquharson's Hotel, Truro.—Mines and
Parcels.—United Mines 1200—South Caradon 350—Parcels 283—Tresavan 247—
Crege Braws 180—Trellech Consols 163—Wheel Braw 115—South Talsins 71—West
Trellech 61—Wheel Mary Consols 46—North Downs 16—Wheel Unity Wood 11—East
Downs 7.—Wheel Talsins 4—Penbribs 1.—Total, 2755 tons.

At SWANSEA for sale, October 21st.—Cobre 110, ditto 102, ditto 101, ditto 97, ditto 77, ditto 40, ditto 103, ditto 102, ditto 101, ditto 96, ditto 85, ditto 84, ditto 64, ditto 36
Burra Burra 57, ditto 47, ditto 29—Copiapo 95—Borhaven 92—Vine Sling 13, ditto 9—
Chili 16—Total quantity: 1358 tons.

at this port from Adelaide, South Australia. The hon. Capt. Sturt, Treasurer and Accountant-General of that province, his lady and family, were among the passengers. The gallant captain is the celebrated geographical explorer of the interior of Australia, and the discoverer of the extensive rivers Murray and Darling. Capt. Sturt endured the greatest perils and hardships in his late scientific expedition. The *Apollon* brought a cargo of very rich copper ore, consisting of malachite, a green carbonate of copper, some wool, and a few sacks of seed wheat.—*Champion*, yesterday.

EXPORTS OF METALS TO ALL INDIA FROM LONDON AND LIVERPOOL,

PRICE OF MATERIALS.

DESCRIPTION.	MAY.	JUNE.	JULY.	AUGUST.
Coal, carriage included	15s. 6d.	18s. 6d.	18s. 6d.	18s. 6d. per ton.
Timber, balk	—	—	1 1	1 1 per foot.
" pine	1 3	—	—	—
Iron, common	10 0	10 0	10 0	10 0 per cwt.
" hoop	14 6	14 6	14 6	14 6
Steel	—	42 0	—	—
Rope	—	—	—	38 0
" Hemp	—	0 44	—	0 44 per lb.
Yarn	—	0 3	—	—
Tallow	54 0	—	—	— per cwt.
Nails, patent	—	19 0	17 3	—
Leather	—	1 3	—	1 2 per lb.
Candles	5 9	5 9	6 0	6 0 per doz.
Powder	38 0	38 0	38 0	38 0 per cwt.
Flints	—	—	1 4	— per doz.
Cans	4 9	—	4 9	—
Safety fuse	0 4	0 4	0 4	0 4 per coll.
Whisky kibbles	—	—	19 0	19 0 each.

No.	City	Leith.	Present ac.	Price	Last	Traffic Returns
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76	North Pool	45	. 370
78	North Roakear	101	. 900
512	North Treburget	9	. 3
500	North United	73	. 15
256	North W. H. Leimur	11	. 12
263	North W. H. Leimur	11	. 8
128	North W. H. Providence	24	. 3
5000	Northern Coal Co.	23	. 2
1200	Old Delabale Slate Co. ...	25	. 50
128	Pan Consols.	900	. 1000
5000	Pennant	12	. 2
100	Perrilwh	30	. 65
1280	Perrin St. George Un. ...	13	. 20
128	Perrin St. George Un. ...	51	. 15
512	Plymouth Wh. Yeoland ..	43	. 25
256	Psalphish Consols.	3	. 64
112	Providence Mines	35	. 45
256	Rodruth Consols.	3	. 2
5000	Rhyanney Iron	50	. 30
0000	Ditto New	7	. 64
256	Rose Consols	10	. 2
1000	Rosewall Hill	1	. 5
256	Rosewarra Mining	50	. 6
256	Shotts Iron Company	50	. 6
5000	Silver Valley	5	. 2
1224	South Callington	5	. 3
1028	South Canadian	10	. 450
5000	South Dolcath	3	. 24

FOREIGN MINES.

5000	Altun Mining Company	141	. 3
5000	Asturian Mining Co.	11	. 64
5000	Australian	10	. 24-3
1000	Balances	25	. 21
12374	Ditto Subscription	25	. 21
3000	Balances	150	. 44
3000	Ditto Scrip	15	. 43
1200	Brazilian Imperial	22	. 6
1000	Cobre Copper Co.	40	. 18
3500	Colombian C. Regia.	55	. 1
5000	Ditto Scrip	54	. 1
5000	Copiapue Mining Co.	14	. 22
1000	General Mining Assn.	20	. 13
5000	Kingsthal Mining As.	20	. 13
20051	Mexican Company	69	. .
2000	Mexican & South Amer. ..	7	. 15
5000	Mocubas & Cocae	25	. 6-4
29320	[El del Monte, regia.] ..	281	. AV-2
	[Ditto unregistered]		
	Ditto Red Debitures	10	. 10
	Ditto Black Sides	8	. 8
	Ditto Lean Sides	10	. 6
7000	Royal Santiago	10	. 6
2000	Pachua Mines	4	. 4
11000	St. John del Rey	15	. 7
13174	United Mexican	281	. 2

SOUTH AUSTRALIAN SHARE MARKET.

Shares.	Company.	Paid.	Price.	Shares.	Company.	Paid.	Price.
3000	Adelaide	5	. 71	18	South Para	15	. 50
5000	Barossa Range	1	. 3	1000	Poonawarra	94	. 10
4464	Burra Burra	5	. 170	400	Princes Royal	34	. 259
266	Grand Junction	15	. 28	10000	Royal Mining Company ..	4	. 1
200	Greenock Creek	5	. 12	10000	Royal South Australian ..	55	. 55
00000	Scottish Invest. Co.	1	. 14	600	Victoria	2	. 3

Belgian	28	578,338	—	4	721	—
.....	—	—	—	—	60399	58777

SOUTH AUSTRALIA AND NEW ZEALAND.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.
MONDAY.—Charlotte 21—West Wylam 18—Wall's End Walker 20 6—Haswell 22 6

Shares.	Companies.	Paid.	Div. p. cent.	Price.
22,500	Australasia	£40	£3	£174

Thrust.	Commodity.	Paid	Dis. n. cent.	Price
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20,000	Australasia	£40	5	178
20,000	British North American	60	5	219
20,000	Colonial	25	5	183 10
—	Commercial of London	20	5	23 23
4,000	Ionian State	25	5	34 25
20,000	London	15	5	16
20,000	London and Westminster	20	5	16
10,000	National Provincial of England	35	5	35
20,000	National of Ireland	22 1/2	5	19
20,000	Provincial of Ireland	25	5	42
4,000	Ditto	10	5	194
10,000	Ditto Australia	24	5	83
10,000	Ditto New Zealand	24	5	83
20,000	Union of London	46	5	12

NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed—
To THE EDITOR,
Mining Journal Office,
25, FLEET-STREET, LONDON.

Also, to avoid trouble, POST-OFFICE ORDERS should always be made payable to WILLIAM SALMON MANNING, as acting for the proprietors.

Improvements in Copper Smelting.—A full description of the new process of smelting copper ores, referred to last week, will be given in our next Journal.

"A New Subscriber" (Pool).—The information would be very acceptable.

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses; not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.—We cannot make an exception in favour of "A Friend to the Adventurers" (Ashburton), who again writes respecting the Dean Prior and Buckfastleigh Mines.

News.—F. Best (Blackwood).—"A Newcastle Collier"—T. Deakin.—"A Lead Smelter."—"A Subscriber" (New Orleans).—W. R. (Somerset).

THE MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 25, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, OCTOBER 16, 1847.

In last week's Journal we submitted to our readers a few observations on the internal progress, and domestic comfort, of the kingdom, as illustrated by the understood state of the public revenue up to that date; and we stated our opinion, also, that the most accessible and efficient means, for the restoration of the circumstances of the country, would be found in the diligent dedication of our energies to the cultivation of an enlargement of the various branches of our home industry. As a people, we are invited to give this direction to our exertions, by a consideration of the elements spread around us. We have, at our doors, a population of some 30,000,000—to feed, clothe, lodge, instruct, govern, and recreate these, is, in the fullest sense of the word, a national and an imperial task; this multitude of souls has distributed throughout its several parts an amount of wealth so great, as never yet fell to the lot, or formed the inheritance, of any single people. To direct the majority of these waiting millions, and this mass of wealth, to the enlargement of truly remunerative and reproductive works, would, to our minds, be an application of our great resources, at once wise, wholesome, and seasonable. The circuit of these islands encloses a noble field for the profitable occupation of our industrious classes. Fisheries, mines, manufactures, railways, agriculture, and practical philosophy, are branches of laborious and useful exertion, in which we have set a glorious example to all present, and to all succeeding, times—they form the concrete, upon which is founded the pillars of our present greatness, and of our future renown. We are, undoubtedly, greater debtors to this species of occupation than a large portion of the periodical press of England is willing to admit. In what condition, let us ask, should we have found the revenue of the last year, and of the last quarter, but for the expenditure on railways, and that class of undertakings? We will take upon us to say, that the public service could not have proceeded without great embarrassment. In addition to the Irish loan, you would have had, it is likely, to contract a loan for yourselves, if the Excise and Customs departments of the revenue had not been fed in the manner and to the extent they have, by a large portion of the 30,000,000L, paid upon railways. Distressed, therefore, though we have been, and casting about, as truly we are, for more profitable theatres of exertion, our perplexity and distress would have been all the greater, if we had not so steadily eyed, and so faithfully pursued, what promised and proved to be so good a deliverer. We were in some manner similar to that overladen pilgrim, who, on his journey, coming to a certain object, stood and steadfastly looked upon it, and, as he continued to look, his burden fell off; and we, also, by steadfastly facing our difficulties, shall find them lessen, till they are finally lost.

It will have been noticed by our readers, that our statement of last Saturday, as to the results of the year's revenue, was an entire day, at least, in advance of the whole metropolitan press. There is always some danger in a too early, or a too rapid, examination of such large documents; but we are, at the same time, happy to know, that we were substantially correct, and that the income of the year just expired exceeds that of the preceding year, notwithstanding the presence, in the former period, of incidental contributions to the amount of fully half a million, and which have not been renewed in the accounts just concluded.

We publish, elsewhere, the conclusion of the report of the Great Welsh Colliery case, by which our readers will perceive that a sum of 17,000L has been awarded to the plaintiff, for the injury caused to his mines, by the mode in which the lessees have worked them.

We have abstained, hitherto, from making any remarks upon the subject of the investigation; but we feel it our duty, before dismissing the subject, to point the attention of the lessees of mines to the important principle which is involved in the present case. The chief ground of complaint appears to be, in the language of one of the witnesses, that the works were carried on with too great a regard to present profit, and want of sufficient attention to the permanent durability of the mine. From the nature of minerals, it is obvious that there can be only two ways of obtaining a large quantity—either by exploring an extensive district, and spreading the operations over a wider area, or by excavating a greater proportion of the material in a given spot. Considering the immense outlay, risk, responsibility, and skill, employed in carrying out mining explorations, every indulgence should be shown to the lessees, for theirs are no common dangers, and every circumstance conspires against them. But, on the other hand, contemplating the gigantic importance of mineral properties, both to their owners and the public, the lessor needs the most jealous protection. To a great extent, he is in the hands of his tenants; for though, in the event of any injury being done to his property, he may recover some compensation, it is only obtained at the cost of litigation, the severance of friendships, the possibility of defeat, and the great probability of incompetent recompense. Above all, a lessor would, by far, prefer the safe enjoyment of his property to all the damages that would be awarded to him. It is in the medium that exists between the true interests of the lessor and lessee that security alone can be found. To this end, the moral of the present investigation tends; and, though it may be difficult sometimes to determine what the just boundary may be, upon which the two parties meet, there can be little doubt that, where every endeavour is made to ascertain it, and both interests are fairly consulted, the grounds for mutual dissatisfaction may be removed, and the danger of pecuniary loss considerably diminished.

One great misfortune of the defendants seems to have been that, though surrounded with difficulties, these means were not employed—that professional guidance and assistance was rather rejected than courted. This course may, under the superintendence of men of ability, not be followed by evil results; yet, as a general rule, it is certain that principals, however profound their skill and knowledge, must always find it a great gain to repose upon the aid and advice of experienced men, whose life has been devoted to the practical application of science to mining. Even if no other benefit resulted, they would then be enabled to show to a jury the care and pains which had been taken—and this could not fail to produce for them a highly beneficial effect.

The inquiry lasted over a period of 35 days. Few cases have been so patiently investigated, or have had brought to bear on them so large an amount of scientific testimony.

We have been highly gratified by a perusal of the proceedings of two meetings, lately held in the county of Cornwall—one, the Polytechnic Society, held at Falmouth; and the other, the Royal Geological Society of the county, held at Penzance. The time is now happily gone by, when institutions of this description need the recommendation, or the defence, of the press—they have, in the minds they have assisted to form, and in the tastes they have propagated, asserted their own utility, and fully vindicated their establishment. Geological science (if, indeed, that can be called a science, which is little more than an enumeration of facts) is of first-rate importance to Cornwall as a mining district. A knowledge of the laws to which Nature herself has submitted, in the formation and arrangement of the earth's strata, would greatly help the labouring miner, and give increased precision to all his operations. To the captains, and superintendent miners, such knowledge is more important still; for on their opinion and report it often depends, whether mines shall be commenced, or others suspended, in the working of which thousands may be profitably spent, and profitably withdrawn. The Polytechnic Society contemplates an essentially different class of objects. It is alive to the interests of general science, but aims principally, as we think, at the patronage and promotion of such results as lie within the compass of the domestic, the mechanical, and the fine arts. We are not disposed to carp at the judgment of the judges, nor to criticise their distribution of prizes; but we think they might advantageously increase the value, or the number, of such rewards, and submit them to a wider and more emulous competition. But of these two valuable societies, taken together, between which may be traced many constitutional affinities, and connate virtues, it may be safely affirmed, that they are calculated to sharpen and enlarge the scientific mind of the county. They have already well taken root, and will yield, we doubt not, to those who cherish them, their enriching fruit in its season.

We must not omit to proffer to Sir C. LEMON, the distinguished president of both societies, those thanks which are but the smallest part of his just claims on his countrymen—at home, fostering the nascent literature of his district, and deepening the foundations of its knowledge and morality by his own instructions and example—in the senate, giving his voice and vote in favour of those principles of government and legislation, which his matured judgment and experience have confirmed to him as best and wisest. Of such a man, his daily life is his best eulogy; but, in addition to this best of monuments, we think his country will not be slow to give his name, in due time, a memorial in the Abbey Church of her metropolis, among her statesmen, her philanthropists, and philosophers.

If the management of mines requires care and circumspection, the departments of finance are of equal, if not of greater, importance. The fear of mismanagement has deterred many from speculating—the dread of liabilities has frightened hundreds. And why should such be the case? It is, indeed, too true a proverb, that "Everybody's business is nobody's;" but, when shareholders leave everything in the hands of their agents and servants, and find themselves deceived or disappointed, it is too bad to cry out against mining—when all, perhaps, might be owing to their own carelessness and inactivity. We have heard, of late, of numerous mines being under the management of individuals who keep the finances of each mixed up together, and with their own private accounts. We think, for the safety and security of legitimate mining, such should not be allowed; and we hope these general observations will cause a reform, and save us the pain of personal allusions. It is not enough to say, that persons so acting are good and responsible men; for we know not, now-a-days, who are responsible men, and there should be no risk where none is necessary. But it is the principle, not the men, we denounce, nor shall we quit the subject until we see a complete reform. The press is the greatest safeguard of mining—to uphold one legitimate course, it knows neither friendships nor partiality; and, as the only medium of mining information, we feel compelled thus publicly to refer to a course which we are only surprised, in this great city, should have been allowed to continue so long.

There is a general feeling springing up for dividend-paying mines. We have it from good authority, that the demand for them is greater now than ever; and there will, also, be capitalists found to embark in young and promising adventures, if they be in the hands of committees of responsible and practical men. In such mines as East Wheal Rose, Treviskey and Barrier, and others, parties embark freely, because they feel a perfect security in their managers; and if, perhaps, too large balances are kept in hand at the latter, it is owing to the safe side—whilst the names and standing of the managers offer a perfect security that the mines will never be allowed to run in debt, or the shareholders deceived. It is to this state of security of the dividend-paying mines that we wish to bring those making calls; and we feel assured, however individuals may wince, that we shall have the public on our side in the course we intend to pursue.

How frequently do we contemplate the prodigious growth of some wonderful phenomenon—how often do we gaze upon the grandeur of some mighty structure, without considering, for a moment, whence it had its rise, or upon what materials its foundations are laid. The progress of civilisation carries our ideas along with it, and we seldom stop to reflect on the small beginnings whence "great facts" have sprung, but engage ourselves more in meditating on improvements for the future. While, however, we are anxious, and laudably so, to improve our condition, it cannot but be useful, as well as interesting, to take a retrospective glance at the past, and particularly to inquire what were the first steps which led to our greatness. When we have beheld the rolling torrent of an impetuous stream, how filled with astonishment and admiration we are when we arrive at the calm and gentle fountain-springs whence flow those waters which become so vehement in their onward course. We have always considered the pursuit of mining of the greatest importance. If we carry back our minds to the first annals of our country, we shall find this to be the case—nay, more, we shall discover it was the mineral wealth of the south-western part of the kingdom which first attracted foreigners to trade with us. Mining, then, was the foundation of England's commerce. The Phœnicians are considered to be the first who opened any commercial intercourse with Britain. At that time, Spain was the only other country whence tin could be obtained; and it is believed that the swords and spears of the ancients were made of a mixture of copper and tin, even long after the introduction of iron. The Scilly Islands were, no doubt, the principal point of attraction, although we may wish safely include the county of Cornwall—which, from its peninsular position, was, most likely, similarly regarded. A Latin writer, of the fourth century, speaks of certain islands, in the neighbourhood of Albion and Ireland, which, he says, were rich in tin and lead. The inhabitants had no ships built of timber; but skimmed along the surface of the water in boats, constructed merely of skins, sewed together—and they even made considerable voyages in such vessels; the skins, however, must have been distended on some wicker-work. The mines of Britain are particularly mentioned by several of the most ancient writers, and of such importance were they considered, that the Phœnicians carefully concealed the fact from the rest of the world. This they contrived to do for a long time, until the Romans succeeded in discovering the islands; which were called Cassiterides, or Tin Isles, when they got part of the tin trade into their own hands. It does not appear that the copper mines of Cornwall were worked to any extent, prior to the last century; but, in the days to which we are referring, the "Tin Country" is distinctly recognised by a Latin historian, of authority, as being the British Islands; and we are informed by another ancient writer, that the former had actually

composed a treatise on the subject of these islands, and the mode of preparing tin. Having thus introduced this very interesting subject, our space will not allow us the pleasure of dwelling longer upon it at present; but we shall take the first opportunity of resuming it on another occasion. In the meantime, we cannot conclude better than in adopting the words of a well-known modern writer:—"It is not," he observes, "over-estimating the importance of the mineral produce of Britain, to place it before even that of the soil itself; for, granting that we could have tilled the globe, and reaped the most luxuriant harvests altogether without the aid of metallic implements, we would have still been deficient in all the higher efforts of humanity—in our dress, dwellings, ships, vehicles—in literature and science—in fact, in all that power and pre-eminence which, as a people, we now enjoy."

Having had many opportunities, from time to time, of visiting the principal mines in the Sister Isle, we purpose devoting space to the insertion of scraps and extracts from our travelling notes, adding thereto such valuable information as we may have acquired from practical friends, who have accompanied us on our visits, or who, from their residence at or near to the respective mines, possess the more ready means of acquiring information, than that afforded to the occasional traveller. It will be our object, in the present series of papers, to direct attention to the mining industry of that country, and to furnish such conclusive evidence of the importance of prosecuting and encouraging mining pursuits, as are calculated to yield, not only ample returns to the capitalist, but to afford employment to the peasantry and working miner. We shall, in the course of our notes, lay before our readers the result of the past few years' workings of the several mines, and their position at the present period, introducing such observations connected with the geological features of the several districts, as we may deem deserving of notice—at the same time rendering the series popular and instructive, in addition to the information conveyed, as to the practical working of the mines.

To effect this, it is only natural to suppose that we calculate on the assistance which can be afforded by our correspondents, and hence the order in which the several articles may appear, as relates to contiguous districts, will not be strictly observed, while, at the same time, the series, when complete, will be found to embody particulars of all mines of importance, it being borne in mind that, where details are not given, such omission is alone chargeable to those more immediately connected, and whose interest it would be to furnish us with the information. This we do not, however, contemplate—for we have ever found in Ireland the same openness of communication, which has enabled us to contribute so much information as pertains to our mines in England, equalled only by the "kindly welcome," which has ever attended our visits to that country. We, then, court communications from our friends in Ireland, assuring them that they shall be rendered available in aiding the development of its mineral riches by the employment of English capital.

When it is considered the many millions which have been expended, within the past two years, in giving employment to the starving poor of Ireland, in the construction of roads which may never be travelled, and improving estates, from which the landlord can alone derive a benefit; or, if we take the money expended in providing the means of existence, although, sad is the reflection, that thousands have expired from want—it does appear strange that the money of the nation was not applied to the important object of enhancing our national wealth, by developing its mineral resources. Let us take an instance: we would first assume that 500,000L. had been applied to the opening of and working mines, under the control and management of Government inspectors, than whom, with some one or two exceptions, none can be less practically informed—however, even under Government patronage, we would have had this done. Now, with a country, like Ireland, prolific in minerals, with labour cheap, with water power, canals, and loughs, the Shannon—with bogs almost interminable, which would supply fuel for engine-power—with railways in course of construction, and facilities daily increasing for the ready transport of the produce—it does appear to us that mining forms a legitimate mode of application of the money of the nation, when such is to be the means of subsistence, and for which we have a right to expect, as we believe there is the readiness to afford labour in return. Let us, however, return to the position we would advance—of devoting 500,000L. to be employed in labour in the working of mines in the Sister Isle. We would spread the expenditure over two years. This would give employment, at the current rates of labour, to no less than from 8000 to 10,000 for the 24 months—thereby affording support to, at least, from 40,000 to 50,000 individuals for that time, assuming even that no returns were made in the interim. This, however, is an extreme view, if we may judge by the past.

It is to be observed, that in prosecuting these workings, or discoveries, the operations would be principally in the wild or mountainous districts, where labour is scarce, where cultivation of the soil is impracticable, from the absence of all fertility, its richness or wealth not being gleaned from the surface, but from the mineral substances contained beneath. Here it is, where no kind of employment exists, where famine strides abroad, that aid is most required; and we can well imagine the ready support of the Irish landlord, now that he is pressed with the claims of Government, for advances made, to enable him to get his rents, and that he has to meet the demands of the "Union." The time was, when he would exact from the English, or even the Irish capitalist, the "pound of flesh;" but BRITANNIA, like PORTIA, having taken upon herself the advocacy of the cause of the oppressed, has, we have reason to believe, effected a change, which must prove beneficial to the interests of Ireland, whether considered as respects landlord or tenant; at the same time, that we feel well convinced it will be productive of advantage to the capitalist. If, at the expiration of two years, one-fifth of the mines only were found to be productive, or to afford reasonable grounds for being continued, which would be a moderate calculation, if well-selected, there would be, doubtless, many parties who would gladly come forward, and embark capital in prosecuting them, repay a part or whole of the outlay expended, and, moreover, thus afford employment to an equivalent, if not a greater, proportion of those whose labour might not be further required in the abandoned mines or districts. In making these observations, we have not considered the chances or the prospects which the mines of Ireland offer; while a passing note on the large profits yielded by the Allihies, Knockmahon, and Wicklow Mines—not to enter into detail, or reference to other mines, on the present occasion—affords conclusive evidence. If, again, we take the counties of Wicklow, Waterford, Galway, Tipperary, Monaghan, Clare, Armagh, Cork, and other districts, as containing mineral veins in abundance, some worked profitably, others only partially tried, but the majority neglected, not to advert to the colliery districts, we think that we do not err in saying, that much may be accomplished by the application of capital, with a due observance of energy and talent, combined with economy. Even taking Tipperary (one of the wildest counties), there is an abundance of mineral veins, which may be worked, if not with profitable results at the onset, at least so as to return from 10s. to 20s. in the 12.; and if we were to adopt this as a rule applicable generally, we might double, or even quadruple, the number of men and families, who would be benefited by the outlay of capital suggested. We have now given an outline of the views we entertain, and, on the present occasion, have only to refer to a slight sketch of the Wicklow district, the result of a further investigation during the past week—intending, as we do, to follow up the subject by a detailed account of the several mines to which reference is made.

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

Returns of the importations, made in the month of August last, and in the first eight months of the present year, have just been published by the Board of Customs, together with comparisons of the importations in the corresponding periods of 1846 and 1847. It appears that, in August, 1847, the importation of "pure copper of the first fusion," was 5621 metrical quintals; in August, 1846, 5934 metrical quintals; and in August, 1845, 9045 metrical quintals. In the first eight months of 1847, the importation was 57,827 metrical quintals; same period of 1846, 43,061; same period, 1845, 67,398. The stock in the depôts, at the end of August last, was 826 metrical quintals; August, 1846, 671; and August, 1847, 1453 metrical quintals. The importations of tin were—August, 1847, 2403 metrical quintals; August, 1846, 3159; August, 1845, 2751; first eight months of 1847, 8471; same period, 1846, 10,294; same period, 1845, 13,725. Of cast-iron the importations were—58,190 metrical quintals in August, 1847; 45,820 in August, 1846; 31,752 in August, 1845. In the first eight months of 1847, the importation was—676,624 metrical quintals; same period, 1846, 556,349 metrical quintals; same period, 1845, 363,255. Of coal the importation in August, 1847, was—1,164,588 metrical quintals; in August, 1846, 1,348,694; and in Aug., 1845, 1,307,361; first eight months of 1847, 14,524,194 metrical quintals; same period, 1846, 13,491,206; same period, 1845, 13,875,235. The importations of lead in August, 1847, was—17,456 metrical quintals; in August, 1846, 34,564 metrical quintals; 1845, 27,740; first eight months of 1847, 116,703 metrical quintals; August, 1846, 149,403; August, 1845, 109,566. The importation of zinc was—16,994 metrical quintals in August, 1847; 7226 in August, 1846; 14,788 in August, 1845; 106,736 in the first eight months of the present year; 61,151 in the same period of 1846; and 92,803 same period of 1845. The amount of duties levied on all these different articles, during the first eight months of the present year, was—copper, 116,270 fr.; tin, 13,707 fr.; cast-iron, 3,735,655 fr.; coal, 345,394 fr.; lead, 647,950 fr.; zinc, 50,945 fr. A few years ago, the duties on the importations of coal and cast-iron were comparatively insignificant; but, at present, they yield more revenue to the Government than any other articles, with the exception of coffee, cotton, sugar, and oil.

It is positively asserted, that one great coal-pit company in this country never allows any of its accounts to be seen by any body except the directors—the shareholders contenting themselves with whatever dividend is awarded to them, without making the slightest inquiries into the amount of the outgoings or incomings. This may appear somewhat singular confidence in this distrustful age; but it is explained by the fact, that the situation of the company is such as to render it necessary to be constantly in communication with, and constantly soliciting favours from, the superior employés of a certain department; and as it has been found that, to obtain these favours, certain disbursements are necessary, and the observance of the strictest secrecy absolutely indispensable, it was considered right by both shareholders and directors that the extent and nature of the company's transactions should be kept a matter of profound mystery, even to the parties most interested; and so strongly is the necessity of this mystery felt, that a reserve fund of considerable amount is actually maintained, for the purpose of repurchasing, in the name of the company, at any price, any share which may, by any strange chance, find its way into the hands of any individual disposed to be indiscreetly curious, as to the disbursements and profits of the concern.

The members of the Municipal Council of St. Etienne, "in council assembled," have begun squabbling among themselves with respect to the Compagnie Generale de la Loire. At their last meeting, the mayor positively refused to allow the minutes of the preceding meeting to be read, because they were drawn up in such a manner as to contain an attack on the company; but the majority of the council insisted that they should be read. A stormy debate ensued, and was kept up with great violence until night compelled the council to separate, without coming to a decision. The agitation which exists at St. Etienne (a town which contains 80,000 souls), with reference to the company, is, I am assured, most extraordinary. The company and its proceedings are the common topics of conversation in every circle; and during the discussion of the Municipal Council, to which I have referred, large crowds of persons assembled in the market place, and in the principal streets, to await the council's decision. The local papers continue to attack the company with even increased virulence. One of them asserts positively, that the amount of the loans raised by the company, including one recently realised, is 18,960,650 fr. (about 760,000*l.*), which has to be paid in equal annual instalments before 1871. The resignation of the principal engineer of the company, who gave up his situation under the Government to join it, is announced; as is also that of several of the principal directors. Things seem to be coming to a crisis with the concern, when something must be done.

Bad management, in my opinion, is the great cause of the terrific hostility with which the company is assailed, and which is menacing its very existence. With such a great monopoly as it has—a monopoly the like of which never before existed—it ought to have taken every measure to ingratiate itself with the public, and especially to remove the fears that were entertained of its being likely to make an unwarrantable use of its many advantages; but, instead of that, it appears to have spared no means of showing disdain for public opinion, and of making an abuse of its power. Though it is an immense monopoly, my opinion is that, if it were properly managed, it would be beneficial to the public; but, from what has occurred, it may be doubted whether the public can ever be brought to place the slightest confidence in it.

The coal pits of Ferques are advertised for sale on the 9th of November—the company having been dissolved.

Contracts for the supply of a quantity of sheet-iron to the dockyard at Brest are to be received on the 28th inst.

The past week has been a very dull one in mining matters. The shares of such of the mining and iron-work companies as are negotiated in the Bourse have undergone a decline.—Paris, Wednesday.

BRUXELLES.—The Belgian Government has just published an account of the exportations made during the first eight months of the present year. The exports of the articles, which interest your readers, have been as follows:—Portative arms for 2,593,589 fr. to the Zollverein, Netherlands, France, Turkey, United States, Brazil, and other places. The exportations of the first eight months of 1846 were 2,382,575 fr.; and in the same period of 1845, 2,082,013 fr. This increase, it will be seen, is rather formidable. France received exports to the amount of 770,052 fr. in 1847, to 677,929 fr. in 1846, and 571,766 fr. in 1845. Brazil received to the amount of 465,942 fr.; whilst in 1846 she received only 213,467 fr., and in 1845, 302,834 fr. The United States received for 302,836 fr. in 1847, 164,956 fr. in 1846, and 174,091 fr. in 1845. These figures, I apprehend, will not be very agreeable to such of your readers as are engaged in the manufacture of arms, for they show that the exports of Belgium are rapidly increasing, even in markets, which, a few years ago, drew their supplies exclusively from England. The exportation of coal, during the first eight months of 1847, was 1,135,307 tons; 1846, 860,576 tons; 1845, 907,550 tons. France and the Netherlands took nearly all this coal—France having received 983,130 tons of the total exports of 1847. The export of cast-iron, in the first eight months of 1847, was 74,985 tons; same period of 1846, 41,400 tons; of 1845, 27,355 tons. France received 41,959 tons of the exports of 1847, 28,390 of 1846, 15,588 of 1845. The Zollverein received the remainder. In both countries it will be seen, the increase was very remarkable. The export of rails was 3939 tons in the first eight months of 1847, 2627 in the same period of 1846, and 5662 tons in the same period of 1845—all of which, in the three periods, went to the Zollverein. The export of cast-iron worked was 679 tons in the first eight months of 1847, 103 tons in the same period of 1846, and 249 tons in the same period of 1845. The greater part of these exports was taken by the Zollverein and the Netherlands. The exports of works in *fer batté* were 676 tons in the first eight months of 1847, 368 tons in the same period of 1846, and 963 in the same period of 1845. All went to Holland and the Zollverein countries. Of nails, the export was 3918 tons in the first eight months of 1847, 3044 tons in the same period of 1846, and 3928 in the same period of 1845—to the Hanse Towns, the Netherlands, Austria, Turkey, Brazil, and other places. The export of complete works in iron (of machines) was 1294 tons in the first eight months of 1847, 1393 tons in the same period of 1846, and 1177 in the same period of 1845. The countries which received these exports were Russia, the Zollverein, the Hanse Towns, Netherlands, France, Spain, Austria, and others.

The export of detached pieces of machines, in iron and cast-iron, was 513 tons in the first eight months of the present year, 293 in the same period of 1846, and none at all in 1847. The Netherlands and the Zoll-

verein received the largest quantities. The export of zinc *brut* was 3507 tons in the first eight months of 1847, 2914 tons in the same period of 1846, and 3006 tons in the same period of 1845. Almost all of this was taken by France. Zinc *laminé* was exported to the extent of 1469 tons in the first eight months of 1847, 900 tons in the same period of 1846, and 880 tons in the same period of 1845. The Hanse Towns, the Netherlands, England, France, and the United States received the largest quantities. In 1845, the export to England was only 74 tons; in 1846, it rose to 173 tons; and, in 1847, to 305 tons. To the United States it was 233 tons in 1845, 319 tons in 1846, and 715 tons in 1847.

The Company of the Coal Mines of Coume et Colladios and Valentin have just been authorised to construct a railway to the Meuse.

Iron is coming into very general use in this country as a substitute for wood in house-building.

A patent has been taken out by Mr. Ritchie, an Englishman, for a new manner of treating copper ores.—Brussels, Tuesday.

NOTES ON THE MINING DISTRICTS AND MINES OF IRELAND.—No. 1.

WICKLOW.—In noticing this district, it may be well, in the first instance, to confine our observations to the geological features presented in the immediate locality of the Vale of Ovea, where the sulphur ore abounds, and which is worked to a considerable extent—reserving until another occasion any detailed information as to the working of the mines, on other portions of the district. This part of the county is clay-slate, for a great extent, ranging east and west, and overlying the granite, which is found to develop itself about three miles west of the Vale. The great sulphur lode, on which the mines in this district may be said to depend, and which has yielded large returns—the produce some months exceeding 6000 tons—may be considered as the "trunk" of the mines, running in a direction a little north of east and south of west, varying in its underlay south from 30° to 50°. This lode is found to extend (although intersected by a slide) from Ballymurtagh through a great part of Connoree and Kilmacow, lying about three miles to the east. The western mine is Ballymurtagh, and that next east Ballygahan, running into the Vale of Ovea; while to the east are the mines of Cronebane, Tigrony, Connoree, and Kilmacow. All these mines, it should be observed, are on precisely the same great champion sulphur lode, although it is quite manifest that they have been separated by a slide, or heave, in or about the direction of the river, being nearly north and south, thereby showing a left hand heave. The main part of this slide has not been sufficiently seen to ascertain or determine its true underlay; but the possibility, and, indeed, the almost certainty, is that it underlays east, heaving or separating the lodes 150 fathoms, or, perhaps, to a greater distance—thus leaving the mines to the west of the river, on the cross-course, that distance further south; and, although there does not appear any deviation in their course east and west, yet it is found, in proceeding east, that the lodes vary some points, and give evidence of a bulge, or curvature, in the rock composing the country. This imperfect explanation of the heave, or slide, is gathered from surface observation, and the information acquired from those located at the mines; and, assuming the correctness of the data thus established, the following may be considered a theory grounded on practical evidence, with respect to this particular district. We would then assume, that a channel of ground, lode, or flookan—call it what you will—is running parallel with the great sulphur lode, at a distance of from 100 to 150 fathoms south. This assumed course, we are ready to admit, may or may not exist; but we will recognise it, for the sake of argument, and which view is supported by the existence of the great sulphur lode, which is in itself sufficient to establish the fact, that the country, or rocks, adjoining this great lode, have been raised from their original position, and their mineral character, and even colour, changed from what they had been for a great distance on either side of the lode. This, indeed, must be clear to every observer; and, furthermore, that the country or rocks generally bear no corresponding heights; thereby affording strong presumptive evidence that the great lode, or some other causes, have had an influence in giving internal expansion, arising from heat, which requiring room for escape through such natural openings, the result has been, that the immediately adjoining country, or rock, has been changed by heat. The evidence thus afforded, in looking at this district, would, indeed, establish the fact to the mind of the merest tyro, or greatest sceptic, that heat has the most to do, or is the most powerful agent, in the formation of mineral veins generally.

Indeed, as we have already observed, this locality affords the most striking evidence of the correctness of the theory advanced. The great sulphur lode, to say the least of it, as it indicates in the several points where the best bunches of sulphur have been found, would appear to have been influenced by intense internal heat, arising from some cause which had not been perfected in its operation, and thus leaving to Art what Nature had rendered so nearly complete. This description must not, however, be considered as applying to the lode for its entire length, as before described, but merely for sections or portions—say, in the aggregate, 600 to 800 fms.—varying in bunches of from 20 to 100 fms. in length. By way of illustration, in a more popular form, of the nature of this lode and its branches, we will compare it to the huge trunk of a tree, for the length mentioned, yielding bunches of sulphur as its fruit, while its branches produce its prills of copper ore—prills, comparatively speaking, when taken into consideration with the mother trunk, composed, as it is, of sulphur ore, being in width from 10 to 50 feet. It is a question whether the trunk germinates the branches, or whether they may be considered (to use another simile) as feeders to a stream—the trunk, or main lode, forming the stream, while the copper branches or strings, as leaders, or springs, giving to the main trunk the exudation of sulphur, but reserving to themselves the more valuable ore in the shape of copper. These springs, or contributory streams, if we adopt them in that sense, may be said to be found running obliquely at from 5° to 30°—the branches discharging into the trunk, which becomes the water channel. The water thus contributed from the branches, holding mineral in solution, and by its affinity for other substances, doubtless being the cause of the occasional deposits of copper ore found near the surface. A question has often been mooted as to the probability of the great sulphur lode yielding copper in depth. Such may be the case; and we can only express a hope that success may attend any operations having that object in view.

PESTH SUSPENSION BRIDGE.—The depth of the coffer-dams for this stupendous structure, from the level of the water to the marl, or blue clay, is 60 ft.; the length of the piles are from 80 to 90 ft.—chiefly oak, from the great forests in Lower Hungary, which has been towed up the Danube for that purpose; the average weight of the suspending chains per 10 ft. lineal, will be about 50 cwt.

OBSERVATIONS ON SILICA.—M. Doveri has detailed some experiments in the *Comptes Rendus*, from which we glean the following results:—1. That the alkaline silicates, when decomposed by acids, and particularly hydrochloric acid, deposit the greater part of the silica which they contain if the acid in excess be added drop by drop; whereas the same quantity of acid added at once does not occasion the precipitation of the smallest portion of silica.—2. That silica, once precipitated, does not re-dissolve in acids, whatever may have been its origin, whether precipitated from an alkaline silicate by an acid, or from fluoride of silicon by water.—3. That weak acids, as the carbonic, sulphurous, boracic, and the vegetable acids, decomposed the alkaline silicates at common temperatures, and precipitate the silica either as a jelly or in gelatinous flocculi.—4. That very finely-divided silica, whether anhydrous or hydrated, is capable of decomposing the aqueous solutions of the alkaline carbonates, and dissolving in the solution at a boiling heat.—5. That silica precipitated at common temperatures from a solution of an alkaline silicate or from fluoride of silicon, is a hydrate of definite proportions, the composition of which may be represented by the formula HO, SiO^2 . This hydrate, when heated to 212° F., loses one equivalent of water, and is converted into another compound, $HO, 2SiO^2$.—6. That when a solution of an alkaline silicate is treated with a metallic solution, a precipitate is formed, which is a mixture of hydrate of silica and a metallic silicate; the metallic silicate being entirely dissolved by the mineral acids, while the free silica remains undissolved.—7. That a limpid and very strong solution of silica in hydrochloric acid may be obtained by dissolving in this acid silicate of copper, and precipitating the copper by sulphuretted hydrogen.—8. That a solution of silica in hydrochloric acid, slowly evaporated under the receiver of the air-pump, gives hydrate of silica (HO, SiO^2), perfectly crystallised in very small transparent needles, grouped either in stars or tufts.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Oct. 9, was 17,693; amount of money, £78 14s. 5d.

PRACTICAL GEOLOGY AND MINING.

A course of lectures "On Mining and the Practical Application of Geological Science," was commenced at King's College, on Wednesday last, by D. T. Ansted, Esq., M.A., F.R.S., &c., the Professor of Geology to the college, a gentleman deservedly celebrated as a consulting mining engineer. The theater was well filled by a most attentive auditory, most of whom appeared deeply impressed with the great importance of the interesting subject to which their attention was drawn by the talented lecturer.

Professor ANSTED commenced his address, by expressing his satisfaction at seeing so large a class assembled in the metropolis, and connected with King's College, to attend that which he believed was the first course of lectures ever given in this country, especially devoted to the practical applications of geology and mining. He then proceeded to state, that his lectures would be, to a certain extent, of a technical character, and would presuppose in his hearers some knowledge of descriptive geology. The applications of geology were always available when practical works were to be done, which involved questions concerning the earth, considered either as the basis of operations, or with regard to materials thence obtained, and used for any purpose whatever. Considering, then, the earth's crust as the basis of operations, he gave a very general sketch of the importance of geology in questions concerning the permanence of foundations, and in the various kinds of earthwork, whether they were of the nature of tunnelling, cuttings, or embankments, and in other departments of ordinary engineering, both civil and military; and pointed out the fact, that on the various circumstances of the position and association of mineral and rock masses, depended much of the success of operations of this kind. In matters connected with drainage, this knowledge was also equally useful and necessary; and this, whether with regard to surface draining, or deep draining, and whether in tracts of land of small area, or including whole districts, and extending over very many square miles. The professor also very forcibly sketched the importance of a knowledge of the geological principles of drainage to the architect and the colonist, in selecting sites either for separate buildings or for towns, and the necessity of referring to this knowledge in regard to sanitary purposes and the improvement of property. He next alluded to the subject of springs and wells, and the means of obtaining a supply of water, as being also dependent on geological conditions, and, therefore, belonging to the practical applications of this science. With regard to *material*, he described the various ways in which geology was useful when we wished to obtain or modify any of the substances of which the earth's crust is made up. He considered these materials, first, as they form vegetable soil; next, as they are used for building purposes; then in reference to other employments, whether useful or chiefly ornamental, to which various stones and rocks were applied; lastly, and chiefly, as the source of fuel, and the various metals now in the service of man. Having dwelt at some length on each of these topics, the Professor observed that the practical applications of geology might be grouped in either of two ways—viz.: either with reference to the earth as the basis of operations, and as the source whence various materials are obtained, or in relation to the various subjects of engineering, architecture, agriculture, and mining. Whichever of these arrangements was taken, the effects to be known would be chiefly those that regarded structure—viz.: mechanical condition, chemical composition, and mechanical position. These must be known, as they were illustrated by sections, diagrams, and models, and they must be determined by simple and convenient instruments at hand. He then commenced an elementary explanation of the effects of "mechanical condition," and gave an account of the nature of the various kinds of rock met with in the earth, as to being hard or soft, brittle or tough, whether they would allow water to percolate through them, whether they were composed of simple or of various materials, whether loose or close in their texture, whether massive or easily broken, whether crystalline or otherwise—all these effects, relating to "mechanical condition," depended on geological conditions, and would be influenced by them in every respect. The next group of effects would be those that related to "chemical composition," as, for instance, the nature of rock, whether it be composed of limestone, sandstone, or clay, or whether it be a mixture, such as marl; whether they were in their original state, or whether they seem to have undergone some degree of fusion, and belong to the group of igneous rocks, or whether they have been changed, and are what are called by geologists "metamorphic"—the former class including such rocks as granite; and the latter, slate and materials of that kind. The group of effects relating to the "mechanical position" of rocks, was described as having reference to the rocks themselves, in respect to the horizon, as to whether they were inclined at an angle, or perfectly horizontal, and if inclined, in what direction the beds might be considered to run; if disturbed or altered in position, the way in which they were so altered; whether they remained undisturbed in their original order or otherwise; and whether the first layer had completely passed through the charge before the others were placed upon it. All efforts of this kind were important to works on the earth, and all depended upon geological conditions.

The lecture, of which, we regret, we have this week only room for the above outline, was entirely of an introductory character. The next, which will be given this day (Saturday), it was understood would relate more particularly to engineering as connected with mining operations, and the nature of mineral produce, and the conditions under which they may be obtained—a full report of which we shall give in next week's *Mining Journal*.

IMPROVEMENTS IN THE STEAM-ENGINE.

We were on Tuesday favoured with an opportunity of witnessing the working of a steam-engine, embodying the improvements which have been just patented by M. A. F. Rémond, of Great Charles-street, Birmingham. The object aimed at by the inventor is to get rid of the back action of the steam, by which, in all engines of the ordinary construction, a great amount of power is lost. It is estimated that a cubic foot, or 60 lbs. of water, should give one horse-power; but it is shown that high-pressure engines of the ordinary construction consume, at least, 100 lbs. per horse. This shows that the loss of power from reaction is 40 per cent. By making the passages for the exhaustion of the steam much larger than at present, and by slide valves of a new construction, M. Rémond gets rid almost entirely of this reacting power, and thus saves steam and fuel to a very great extent. The engine with which the experiments were worked was constructed by Messrs. Batch and Firth, of Broad-street, on the most improved principles at present acted upon in the construction of steam-engines. Its power is nearly 1½ horse. The cylinder is so constructed that it can be worked with either the ordinary three-port valve or those of M. Rémond, thus ensuring a fair trial, since whatever may be the defects of the cylinder or piston, they must tell equally against both contrivances. The engine was fitted with Prony's friction brake, and the strain was not altered during the experiments. The following are the results which we noted:—

OLD CONSTRUCTION. (Full power of steam.)		NEW CONSTRUCTION. (Steam cut off at half stroke.)	
Pressure per air gauge.	Strokes per minute.	Pressure per air gauge.	Strokes per minute.
30 lbs.	130	30 lbs.	185
"	130	"	185
"	124	"	191
Mean	126½	Mean	186

It will thus be seen, that with half the steam the amount of work done was nearly 50 per cent. more on the new construction. The manner in which the waste steam escaped was an important corroboration of the results. Under the old system the escape was attended with great force and noise; under the new, the escape was gentle and almost noiseless. The main principle of the invention is the effective manner in which the steam is emitted from the cylinder, reducing the back pressure as much as possible. When the piston rises there is little or no waste steam to prevent its ascent; when it descends, there is little or no steam to retard the descent. We understand that engines of considerable power, on this principle, are in daily work on the continent at the present time.—*Midland Counties Herald*.

MINING IN ALGERIA.—M. Ebelmen states, that a copper mine, apparently of great importance, has been for some time worked at the foot of the defile of Mouraia, in Algeria. The veins are composed principally of carbonate of iron and grey copper; the latter sometimes occurring in compact masses and sometimes in crystals, the prevailing form of which appears to be a rhombic dodecahedron, but with numerous modifications on the edges and angles. The specimens received by M. Ebelmen, for analysis, contained a great number of very brilliant small crystals of grey copper, on a gangue composed of carbonate of iron and sulphate of barytes. These specimens were digested for some time in warm dilute hydrochloric acid, which dissolved the carbonate of iron without altering the grey copper, the crystals of which were then readily detached. Qualitative experiments, conducted in the usual manner, showed that the ore contained sulphur, arsenic, antimony, copper, iron, and zinc; lead, bismuth, and mercury were tried for, but not the smallest quantity was found. No notable quantity of silver could be detected; and the fact that M. Berthier found 0.0008 in 1 part of the ore, shows that the silver is very irregularly interperated through the veins. For the quantitative analysis of this ore, M. Ebelmen employed, with a slight modification, the method employed by M. H. Rose; and taking the mean of several experiments, he obtained the following as the composition of this ore:—Sulphur, 27.25; antimony, 14.77; arsenic, 9.12; copper, 41.57; iron, 4.66; zinc, 2.24—99.61. If the analysis of this ore be compared with that of grey copper from various localities, the greatest similarity will be found between it and that from Sainte-Marie-aux-Mines, which gave M. H. Rose—Sulphur, 26.83; antimony, 12.46; arsenic, 10.19; copper, 40.60; iron, 4.66; zinc, 3.69; silver, 0.60—99.03.—*Annales des Mines*.

DESIGNS ACTS, AND THEIR AMENDMENT.—No. II.

BY F. W. CAMPBELL.

"When doctors disagree, who shall decide?" is a saying most apposite to the present subject; for never has there been one upon which apparently competent authorities have set forth more diverse opinions, than that of the true character and effect of the Act now under consideration, regarding designs for articles of utility, so far, at least, as viewing it as a measure of protection for inventions is concerned—it having been stated, on the one hand, that the enactment was of so comprehensive a nature as to offer a method of protecting inventions in the majority of cases, where a short, but cheap, protection may be preferable to a more extended, but dear, one; and, on the other hand, it has been asserted, that the Act does not apply even to one in fifty of those inventions that have been registered under it; and, by dint of a restrained interpretation of the word "design," the mis-decision has been arrived at—that a working machine or apparatus, or instrument, consisting of moving parts, does not fall within the meaning of the word "designs" in the Act—they not being designs, but mechanical inventions! Then, again, another authority, with less boldness, but equally distorted views, on the subject, does not, indeed, dispute the fact, that these Acts may be applied with useful effect in a great number of cases, but endeavours to depreciate its benefits, by alternately blowing hot and cold, and ending with an expression of scepticism, as to the kind of legal protection conferred by registering the greater number of inventions under its provisions. Now, it is proposed by these papers to facilitate the final settlement of this *quæstio vexata*—not by propounding any *ipse dixit* of the writer, but, simply, by placing before the public a statement of the Act itself, in such form, that they shall be enabled to judge as to its nature and effect, and to determine the propriety of applying the provisions thereof in any particular case. The statute 6 and 7th Vic., c. 65, is a legislative enactment, simply extending and adapting the system established by the Act, before explained, for protection of ornamental designs, to designs not being of an ornamental character; and the tenor of it may be given as follows:—"Any new or original design, having reference to some purpose of utility, so far as such design shall be for the shape, or configuration, of such article, and that whether it be for the whole of such shape or configuration, or only for a part thereof, not being previously published," to be entitled to protection for the term of three years, provided, as under former Act, the same be registered—effected in this case by lodging with the registrar proper documents in duplicate, containing the title of the design, the name of the proprietor, or proprietors, and his or their address, &c., with a drawing made on a proper geometric scale, and a description, such as shall be necessary in the judgment of the registrar, to render the same intelligible—in particular, setting forth such part, or parts, of the said design (if any) as shall not be new or original. Every such document, &c., to be entirely contained on one side of one sheet of parchment, or paper, in size not exceeding 24 in. by 15 in., with a blank space on the same side of 6 in. by 4 in., for the registrar's certificate—one of these drawings being retained for the registrar, and the other being returned to the proprietor, or proprietors, with certificate of registration engrossed thereon.

This Act has the novel provision that; should any party lodge with the registrar a design for registration under the Ornamental Designs Act, which he considers ought to be registered under this Act, he can refuse to register it otherwise than under this Act. Also, if it appears to the registrar that the design lodged for registration under either Act is intended to be applied as a label wrapper, or other covering, or that such design is contrary to public morality or order, he can wholly refuse to register the same; but, in these latter cases, the proprietor of the design may appeal to the Board of Trade, who have power to reverse the registrar's decision, and order him to register such design.

Under this Act, an index of titles of designs, registered pursuant to it, is to be kept by the registrar; and any person, paying the proper fee, to have free access thereto, with liberty of copying therefrom. But, with regard to the inspection of the designs in the registry, parties are not allowed to take copies of those of which the copyright is *unexpired*—with which view, the registrar, or his officers, must be present at any such inspection. The registrar, and staff of officers appointed under former Act, is by this Act altered, so that the two Acts are placed under one administration.

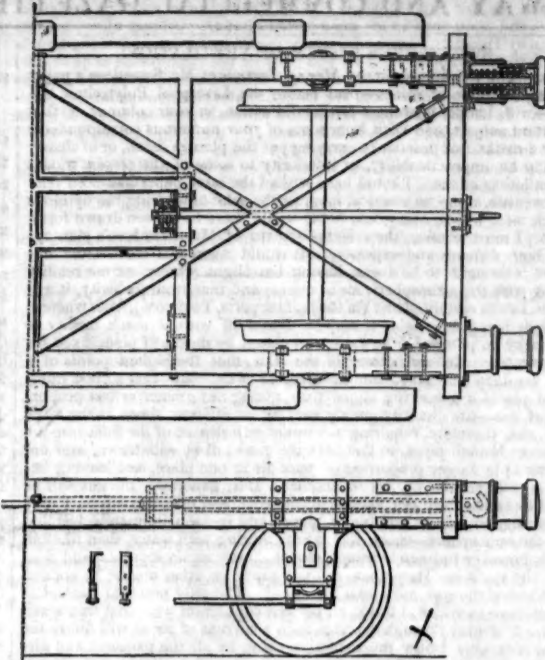
When registered, instead of every article having impressed upon, or attached to it, a *peculiar mark*, exhibited on the certificate, as in the case of ornamental designs, those registered under this Act are required to have "thereon the word 'Registered,' with the date of registration." A penalty for using this word upon a design not registered under this or former Act is inflicted, in amount from 1*l.* to 5*l.*, recoverable as before-mentioned in respect to former Act. The design, when registered, is subject to the provisions of the Ornamental Designs Act in respect to the definition of the term proprietor, transfer, piracy, mode of recovering penalties, actions for damages, &c.—in fact, most of the provisions before-stated in regard to that Act, except they be repugnant to what has been just mentioned. It will be evident, from the foregoing, that it is now law, not only that any person legally claiming the proprietorship of a design applicable to the ornamenting any article of manufacture, or any substance, &c., but also of any new or original design, having reference to some purpose of utility, so far as such design shall be for the shape or configuration of such article, &c., is entitled to secure his exclusive right thereto by registration—in the first case, under Act 5 & 6 Vic., c. 100, and, in the second case, under Act 6 & 7 Vic., c. 65; and, so far, the law can be ascertained with the greatest facility; but its application in this case is by no means so easy, although, when a little common sense is brought to bear upon the subject, all these difficulties will vanish.

Patent-office and Designs Registry, 210, Strand, Oct. 12.

IMPROVED METHOD OF HAULAGE ON CANALS, &c.—Mr. Andrew Smith, the patentee of the wire-rope, now so extensively in use, has, in connection with G. Beadon, Esq., of the Royal Navy, just secured a patent for improvements in warping or hauling vessels along canals and rivers, and also carriages on railways, by means of ropes, chains, or bands. The plan consists of having a steam-engine on board, on an horizontal axle, to which is attached a wheel, having six arms, extending like spokes from the nave to the axle. In these arms are slots, nearly the whole of their length, in which slide six whelps, or arms, which are fixed at any necessary distances by means of wedges—and thus form a reel to receive a coil of galvanised wire-rope or chain; this rope, which is the warping line, is secured at each end to some stationary holdfasts upon the land, or in the water, by anchors or moorings, at a considerable distance apart. The rope being wound once round the whelp-wheel, and gripped there, and being itself stationary, on setting the engine to work, as the wheel revolves, the vessel will be moved forward. The details for the various motions of the vessel, for passing others on one line of rope, are ingenious and effective; but it would be impossible to describe them without complex diagrams. There are three or four several plans for fixing and gripping the rope; and in each the speed of a vessel can be regulated to the greatest nicety, either when speed is required, or when it is only necessary to go slow. There are also arrangements made for an improved mode of steering, by which the warp chain is removed on one side, should it be in the way.

PENNSYLVANIA IRON TRADE.—The increase in this important branch of our manufactures has been rapid beyond any parallel in history. Notwithstanding the large number of new furnaces erected in this state since 1842, and the vastly augmented production, our market is entirely bare of pig-iron, and supplies are wanted at the north, east, and west. Philadelphia is the great depot for this trade in Eastern, and Pittsburgh in Western, Pennsylvania; and from these points supplies are distributed to nearly every section of the Union. The unexampled demand for railroad iron in England has fortunately kept up the price of pig-iron in that country since the passage of the tariff of 1846, and has thus enabled our manufacturers to continue and even extend the production of pig-iron. A new impetus has also been given to this branch of business by the manufacture of railroad iron. Prior to 1844, not a ton of this iron was manufactured in this country. But, under the protection afforded to home labour by the tariff of 1842, several rolling-mills were commenced, and are now completed and in successful operation, and the actual production of railroad iron in 1847 will amount to 60,000 tons, equal to any imported iron. This quantity at the present selling price, \$70 per ton for T rails, amounts to upwards of \$4,000,000, expended nearly all for labour among our own mechanics and labourers, instead of sending that amount of money to England for railroad iron alone. The extension of railroads in every section of the Union will require large supplies of rails, and thus increase the production of railroad and also of pig-iron. In this increased demand Pennsylvania has a more direct interest than any State in the Union, because she furnishes one-half of the pig, and more than one-half of the railroad, iron made in the United States.—*Philadelphia North American*.

IMPROVEMENTS IN BUFFERS FOR RAILWAY CARRIAGES.



In all the details of railway carriage-building, next to sound axles and well-constructed wheels, there is no part on which the comfort and safety of the passengers depend so much as on well-arranged buffers. Very little change has, however, taken place for many years in the principle on which the common railway buffer is constructed—viz.: by powerful springs, made of constantly-diminishing plates of steel, precisely similar to the common coach-spring. A series of these are laid in a frame, beneath the floor of the carriage, and, in connection with iron rods, are placed in communication with the buffer-heads, at each extremity of every carriage, as also of the tender to the locomotive; and, on stoppages, or slackening of speed, taking place, these springs are acted upon by the buffer-rods, so as to break the force of the concussion. We are not aware that there has been any very particular objection to the use of these spring buffers, or that, when in order, they fail to answer the purpose for which they were intended; but they are, to a certain degree, complex and expensive, liable to breakage and disarrangement, and are, moreover, difficult of access for cleaning, oiling, and repairs. We have, during the week, had an opportunity of inspecting a newly-invented buffer, which has been patented by Messrs. Fuller and de Buge, which combines simplicity with great strength and powerful elasticity, and has the advantage of being always within reach, without interfering with any other part of the carriage. It consists of two cast-iron cylinders, fitting one into the other, in the manner of a telescope—the larger being fixed by strong screws and nuts, through the base-plate, to the end of the carriage, or wagon, frame. These cylinders are turned and bored to fit each other perfectly, the smaller being fitted with a wrought-iron pin, round which the rings of India-rubber and plates of iron move freely, and allow of the expansion and contraction of the caoutchouc, as shown in the accompanying diagram. The rings of caoutchouc are about 5 inches diameter, and 1½ thick; the separating iron plates, about 7 inches—consequently, the intervening space is left for the expansion of the material, as before stated. The buffer-head, which forms the point of contact, is made of wood, as usual.

When two of these buffers meet, it will be at once perceived, that the blow, or pressure, is transmitted to the India-rubber, which, from its elasticity, and yielding property, prevents the shock being felt by the passengers. With the usual traffic, these buffers act in the most smooth and pleasant manner; and, in case of very powerful blows and severe concussions, they are of much greater strength than any steel-springs could possibly be made; while the whole forming, together, one solid yet elastic mass, it is next to impossible that they can be disarranged, except in collisions of the severest kind. They are evidently calculated for extreme durability, and are now in use on the following lines—viz., Norfolk, Eastern Counties, Brighton, Midland Counties, Ipswich, Great Western, York and Newcastle, and several Scotch lines, giving the utmost satisfaction. The above diagram is a representation of a pair of these buffers as fixed to the frame of a railway carriage.

From the frequent breakage and injury to goods conveyed by rail, the importance of buffing apparatus also, for luggage waggons, is now generally admitted; and as these wagon buffers, in addition to the great advantages secured, are furnished by the patentees all complete, and ready to fix, at about one-half the cost of steel, it is not to be wondered at, that they should be extensively adopted. The North Staffordshire, we understand, are having 600 waggons fitted with them—so that their merits are in a fair way of being tested. In the diagram, will also be seen the application of the same material to draw-springs and bearing-springs, for which purpose it is equally adapted, and is being tested on several lines. We shall, probably, give some further notice of them shortly, as we consider the discovery a very important one, in connection with railways.

IMPROVEMENTS IN COOLING COKE OVENS.—We, some time since, noticed a great improvement made in the manufacture of coke by Mr. Church, of Colchester, whose plan is to cool the charge, by allowing the atmosphere passing rapidly through air flues, constructed for the purpose, instead of drawing the charge, and throwing water on them. A Mr. F. Ransome, of Ipswich, has taken out a patent for a coke oven, with some different arrangement of air tubes, through which he states, in his specification, he can, by the aid of blowers or fans, cause a much more rapid current of air to pass the flues than by Church's patent, and thereby cool the coke in much less time.

ENAMELLING METALS.—Mr. Walton, of Wolverhampton, has obtained a patent for coating copper, iron, &c., with an enamel, which will stand a red heat, without any injury, even if the enamelled surfaces be profusely ornamented. For thoroughly cleansing the surfaces, the metal is first exposed to a full red heat in an annealing furnace for half an hour, by which all liquid, semi-liquid, or greasy matter, will have been dissipated, and the surfaces become oxidised; this oxide, or scale, is then to be scraped off, and the surfaces rubbed with sandstone. They are then ready to receive a first coat of partially vitrifiable materials, which is poured in a semi-liquid state over the surface, and caused to distribute itself evenly thereon; it is then placed in an ordinary japanner's stove, heated to 180° Fah., and left until all moisture is dried away from the casing, leaving it in the state of a dry whitish composition, which will adhere, unless roughly touched. This composition is composed of six parts of flint glass, three of borax, one red lead, one oxide of tin, well mixed, pounded in a mortar, "fritted" and ground in a porcelain mill, to the consistence of thick cream; when thoroughly dry, the article is ready for firing in a furnace, such as is used by enamel painters, when, having been subjected to a full red heat, and afterwards cooled, they present a dead whitish appearance, resembling earthenware in the state of biscuit. The surfaces are then wetted with water, and a second coat applied, consisting of 32 parts calcined bone, 16 china clay, 14 Cornwall stone, and 8 carbonate of potash, fritted in a reverberatory furnace for two hours, and reduced to powder; 5½ parts of this mixture are then mixed with 16 parts flint glass, 5½ calcined bone, 3 of ground flint, well mixed, and reduced to a thick cream in a porcelain mill; the articles are again fired in a muffle furnace, when they will bear a still more decided resemblance to articles of good earthenware in the state of biscuit. A third coat is given, and a third firing, when they present the appearance of glazed earthenware of the best quality. They may be ornamented with enamel colours, or with prints from engraved copper plates; when they imitate every kind of earthenware with the strength of iron or brass.

Original Correspondence.

ON THE PRECIPITATION OF COPPER.

SIR,—In your few last Journals, you have given an account, not of a new invention, but of a well-known fact, put into practical use in a metallurgical operation—the precipitation of copper from a soluble salt, by means of metallic iron. As the practical success is, of course, dependent upon its economical application, perhaps the few following hints on the different bodies, to which the reagent, after use, may, by chemical decomposition, give rise, and the various purposes in which they may be successfully employed, may be found worthy of your notice. After the conversion of the sulphuret of copper into the soluble sulphate, and precipitation by means of iron, sulphate of iron, or copperas, would remain in solution. If this method should come into extensive use, copperas (already cheap) would become almost valueless—consequently, conversion into any other marketable product, would be desirable; and to attain this object, if a solution of rock-salt (an abundant natural product) be added, decomposition will ensue. Sulphate of soda, and chloride of iron, would be formed, and remain in solution, from which the sulphate of soda may, by crystallisation, be separated—and thus would be obtained a valuable article for the alkali manufacturer in the formation of carbonate of soda; thus rendering him partially independent of the foreign supply of sulphur, on which exorbitant duties, so frequently levied, have caused the greatest inconvenience and loss. The chloride of iron is a valueless commercial article; but, by the agency of quick-lime, oxide of iron and chloride of calcium will be produced—the former, when reduced by means of charcoal, being more valuable than at first in the precipitation of copper, from its being in a state of fine division—thus bringing the respective substances into closer contact, and, consequently, allowing the freer action of affinity among both the proximate and ultimate constituents. The chloride of calcium bears a not altogether unnoticeable value; at all events, in the neighbourhood of towns, it would, in summer, form a valuable addition to the water employed, in watering the streets, from its deliquescent property—thus retaining the moisture; and, by thus preventing its rapid removal by evaporation, rendering one application much more durable in its effects.—J. F.: Tynemouth, Oct. 7.

IMPROVEMENTS IN SMELTING COPPER.

SIR,—Amongst the various methods for improving the smelting of copper ores, which have lately been noticed in your Journal, I am surprised that more distinct information has not been afforded us, from some quarter, of Mr. Napier's process—inasmuch as works conducted on his principle are in actual operation in the neighbourhood of London, and also near to Swansea; and, during the last week, copper so manufactured has been offered to myself and other consumers in considerable quantities; and the quality, so far as we have proved it, is very superior to what we have been using. You notice, in your last Journal, that an improved process is about to be introduced, by which copper can be produced at the small cost of 5*l.* per ton. I am, however, informed, that Mr. Napier's process really costs less than half that sum. I need scarcely add, that this matter is producing a lively interest in this town, and a confident expectation that we shall soon have a considerable reduction in the price of that article.—A CONSUMER: Birmingham, Oct. 12.

MEETING OF THE BRITISH ASSOCIATION AT SWANSEA.

SIR,—As that august body, the British Association for the Advancement of Science, intend to honour Swansea next year, by holding their annual meeting in it, I beg to offer a few suggestions, through the medium of the columns of the *Mining Journal*, to the copper smelters, the corporation, and the inhabitants generally. The time is now too short to effect, even if the inclination existed, the object I proposed in my last letter—viz.: to turn copper smoke into sovereigns. I, therefore, now beg to submit to the smelters a plan, certainly much simpler, and which, I think, will prove more palatable to them. As the declared object in calcining copper ore—the operation which causes the greatest nuisance—(no! I should not say nuisance—the greatest escape of sulphureous vapour)—is to dissipate a portion of the sulphur, and oxidise some of the iron, I recommend the smelters from this time, until after the meeting of the British Association, to leave out part of their sulphurets, and use in lieu a portion of oxide of iron—the red ore of Lancashire—quantities of which pass through the port on its way to the iron-works up the valley. This will save calcination. Before fusing their mixture of ores, I would further recommend the addition of a portion of lime, which will have a tendency to fix any sulphur likely to escape during the fusion. To the other parties above referred to, I beg to submit that a subscription be entered into, to procure a quantity of fertilising compost, to throw over the land round Morriston, Landore, &c.—by a few seeds and guano; perhaps, the application of galvanic wires, too, would assist vegetation. The adoption of these means at once might make the place look a bit tidier next summer. Swansea, Oct. 11. J. J. J. AMMON.

RAMBLES IN WALES—FLINTSHIRE MINES. (Continued.)

SIR,—Going southward from Rhydymwyn, the northernmost mine on the Mold Mountain, it would appear that the grit and chert, said to be partially deposited on the east side of Halkin Mountain, have concentrated and joined—so as to form one general stratum from that point south, still thickening and widening from east to west as it goes southward. The mines, at this point, I should observe, have, from some cause, which for the present I will forbear an attempt to explain, been thrown off the junction of the two or three cross-courses, said to lay to the east of the one forming the source of the Holywell stream, a full mile to the west, and adjoining the one supplying Holywell, which I will call Calob Bell cross-course; on or near to this cross-course, all receiving great increase of water in floods, as well as at other times, and, if not drained by artificial means, discharging their water into it, are the following mines:—Rhydymwyn (before named); Penyfron, on the same lode, but further west; Llynypanda, half a mile south; and Pantymwyn, still further south about half a mile; Bwlchydawron and Pantybuarth, small mines, are further east, and might be supposed to be independent of this channel; Cathole, a mile to the south, is in some measure connected with it; Maesysafn, two miles south; Westminster, two miles further south, is situated on or near the Calob Bell cross-course, overlying and close to the primitive clay slate. From this point southward, the miners small mines, some of which have been very rich, are situated laying immediately on the clay slate, and some of the best mines have been worked through the limestone on the clay slate, without the slightest appearance of the vein going into it; and in this manner have several of the mines been so swept out, and scarcely is there an instance where the vein from the limestone has penetrated the clay slate. Having described the mines from Rhydymwyn southward, on the Calob Bell, running obliquely to the limestone, ultimately joining the clay slate westward, brings me to the grit overlying the limestone to the east, under which, and over the limestone, the great flat at Fownog, Gwernny Mynydd, and other mines further south, as far as Jamaica Mine, have been proved. In almost all instances, these flats have been found on veins in the limestone, throwing out corresponding veins for several fathoms high in the grit. Fownog is, however, an exception to the rule. So far as trials have yet been made, veins in the sandstone have been found adjoining the flat from surface 30 or 40 fms. deep; I shall, therefore, not at present attempt a theory on hopes, or otherwise, of finding a vein in the limestone under the flat. Jamaica Mine, however, differs altogether from the flats before described, inasmuch as it is a regular vein in the grit, or sandstone, from 30 to 40 fms. over the limestone, and, in addition to its present richness, has the well known Maesysafn vein coming in a direct line through the country. Having now described the veins to the east and west sides of the limestone, I will attempt a short explanation of the east and west veins, in connection with the north and south. That the north and south are the oldest is clear, as few, if any, heaves are found to take place; and, further, veins are often found on one side the cross-course, while no corresponding part can, or has been found on the other side.

The lodes in the chert, in the district from Mold northward to Holywell, almost always make their appearance in the limestone, and are often found rich in it under the best runs of ore in the chert, but only to a limited depth and extent. This country, for mining, is more uncertain, and requires greater skill than most mines in the primitive clay-slate; but many of the mines in the schistous require great skill and judgment in their practical working. Unfortunately as mining, in many instances, has been, I doubt not, if the matter be fairly looked into, it will be found that a great portion of the losses has arisen from misplaced confidence, and a want of skill.—A TRAVELLER: Coniston, Oct. 10.

SWEETLOVE'S SYSTEM OF VENTILATION.

Sir,—In your last week's paper I see is contained a long article upon the subject of colliery ventilation, which has been drawn up by a Mr. Sweetlove, and read before the Liverpool Polytechnic Society. The subject of piping was handled by Mr. Lyell and Dr. Faraday, in their pamphlet on the Haswell explosion. That pamphlet was reviewed by Mr. J. Mather, by the committee of coalowners, and by Mr. Mathias Dunn; and it was successfully shown that any system of piping, as applicable to an extensive colliery, is totally impracticable. Prompted, therefore, by the same humane motives as Mr. Sweetlove, and as all these discussions tend to good, I will hazard a few observations upon Mr. Sweetlove's conclusions, as to the nature and effect of the inflammable gas of coal mines. Mr. Sweetlove's description of the panel working of Mr. Buddie is accurate and consistent; but the firing off of gas, as described by Mr. Ryan, in speaking of the Staffordshire mines, is unknown as a system in any other district; and even in Staffordshire the thing is looked upon as fabulous, as no such practice exists there in these days. Mr. Sweetlove explains, that the issue of gas comes from the pores of the coal; and, after goaves are formed, that such goaves become the receptacle of large quantities, and are thus converted into magazines, liable to be thrown out upon the neighbouring workings by sudden atmospheric changes, and other causes. Mr. Sweetlove then proceeds to laud Mr. Ryan's plan, which he says, consists "in digging small canals along the roofs of the boards and head-ways, &c., leading into the upcast shaft—these canals he called gas head-ways. The plan was founded on the principle that the light carburetted hydrogen would rise to the roofs of the galleries, and flow through the gas head-ways, without mixing with the atmospheric air." "In trying to introduce this plan, however, he was encountered by the strongest opposition from the very individuals whom the invention was intended and calculated to benefit." Now, in these statements, Mr. Sweetlove is completely mistaken—for to such a pitch was Mr. Ryan's projects tested, that a deputation was dispatched by persons of great influence to Staffordshire, to ascertain whether any, and what, plan had been introduced so beneficially there; and the result was a complete denial that any such discovery belonged to Mr. Ryan. But, now of Mr. Sweetlove's own plan, which consists of "one large pipe down the upcast shaft to the bottom, and connecting smaller pipes with this ramifying to the various goaves, pot holes, and other places where the dangerous gas accumulates." "The size to be regulated by the extent of the mine, and the quantity of gas to be removed; at the top of the main, or upcast, pipe, to be placed some means of extracting it, such as Taylor's hydraulic air-pump, or Hill's ventilating bellows, &c." "The course of the main pipe would be determined by the peculiarities of the mine itself; where they passed blowers or pot holes, they might be furnished with lateral induction pipes, having funnel openings to receive the larger jets."

Whilst giving Mr. Sweetlove every credit for believing that he had made a discovery—which discovery he was desirous of devoting to the purposes of humanity—I cannot conceal my surprise, that persons, otherwise well informed and scientific, would venture to broach a subject like this without having visited and made themselves practically acquainted with the nature and extent of a set of underground workings, partly upstanding and partly fallen, interrupted by faults, and subject to various irregularities, caused by bad roofs, bad coal, &c.; and then it too frequently happens, that each sanguine theorist will broach his imaginary system before an assembly of persons equally uninformed of either the principle or practice of mining; and because such system is not immediately taken up, it must needs be concluded that it is prejudicial—whilst, in reality, it is, perhaps, that the absurdity of the project is so manifest, that no intelligent person will give himself the trouble of noticing it. Mr. Sweetlove has fallen into the same error as did Dr. Faraday, independent of the question of expense—viz.: "That pipes being directed towards certain parts of the mine, and that pipe operated upon by a draught at the top of the upcast pit, will naturally receive the gas, and convey it out of the mine."

Now, without condescending to notice the incapability of any reasonably-sized pipe effecting such an object, Mr. Sweetlove must be told that the application is an impossibility. In the first place, then, it is the inviolable law of Nature, that the current of air, which is ventilating the mine, will always seek to rush by the nearest passage to the upcast shaft—therefore, the projected pipe of Mr. Sweetlove, instead of conveying out the gas at certain pot holes, would at once be filled by the general air of the mine. To render his piping system at all available, each feeder of gas must be completely inclosed by dam, or otherwise—so as to exclude the air of the mine; and, if this be necessary, there is not a collier in the kingdom who will not pronounce it an impossibility. We all know, and have seen practised, the piping off of certain individual blowers, or accumulations of gas; but then the feeders must be insulated before the pipe can be made available. I agree with Mr. Sweetlove, in the conclusion, that a great deal of prejudice prevails amongst the managers of collieries, even to the great and unnecessary loss of life; but still, where a useful invention presents itself, the most enlightened amongst coal engineers will test its merits, and, if worthy, will patronise it, leaving the less enlightened to follow in due time—such, for instance, was the Davy lamp; it was met with little prejudice, and no sooner were its merits tested, than it came into universal use.

I have lately extracted from the *Mining Journal* the many and strange notions that have, from time to time, occurred to persons upon this important subject; and it is with pleasure, and in compliment to Sir H. De la Beche and Dr. Lyon Playfair, that I contrast their mode of dealing with the subject with that of many other theorists. These gentlemen were appointed by Government to examine several collieries after the many explosions which happened in 1845-6, the last of which was at Ardley Main, near Barnsley. Now, although these gentlemen were highly distinguished for scientific knowledge, and, from their minute investigations and inquiries after the causes of those accidents, they were especially entitled to lay down certain general principles of ventilation, or otherwise, for the prevention of these accidents; yet they cautiously and wisely avoided any such course; but, in the language of their report after the Oldbury explosion, in December, 1846, thus deliver their opinions:

"Our opinions, as expressed in our report to Sir George Grey, are strengthened by further experience, that increased safety in working collieries would be obtained, if a careful supervision were established by properly-qualified persons, who would be enabled to report whether the general principles universally applicable to an efficient system of ventilation were properly applied to the peculiar mode of working adopted in any district, and to prevent, as far as practicable, the danger arising from an improper use of light; and we would—considering the variable conditions under which the British collieries are placed, and the inapplicability of any fixed system of working to them all—earnestly solicit your consideration of the kind of supervision recommended in our letter to Viscount Canning, as the only means of mitigating the dreadful loss of life experienced in our collieries under existing circumstances."

In the above remarks I most cordially agree, that no general system can be made applicable to all situations, save and except a full compliment of ventilation—which, in many cases, is complete and satisfactory, whilst, in others, the greatest ignorance and deficiency is discernible, and the want of which, with those appendages which are well understood by experienced miners, is constantly occasioning the loss of life.

Newcastle, Oct. 13.

SWEETLOVE'S SYSTEM OF VENTILATION.

Sir,—In the *Mining Journal* of last week, there is an account of a meeting of the Liverpool Polytechnic Society, at the Royal Institution, in that town, which I have just read with great satisfaction, together with your comments. You say, Mr. Sweetlove's view of the principles of ventilation is decidedly novel, because he proposes to divide the operation—first, the removal of this dangerous gas before its admixture with atmospheric air in the mine; and, secondly, to keep up a constant supply of fresh air for the respiration of the miners. I take the liberty of reminding you, that, 12 months ago, I advocated these principles, stating my conviction that no system of ventilation could ever be considered safe, in which the whole of the gas, escaping from the coal, was allowed to mingle with the entire atmosphere of the workings. I stated that, for a peculiar case, I had proposed the removal of an accumulation of gas, by forcing it into canvas sacks, to be thus removed, without contaminating the general atmosphere. When this idea was afterwards ridiculed by one of your correspondents, another suggested, as an improvement upon mine, the compression of the gas into thin light copper vessels, something like boilers upon wheels—the gas being thus safely removed, and allowed to escape where it would be harmless. I am sorry the discussion, or correspondence, on the nature and properties of iron, has totally ceased. I hope to have some new facts established in a short time, which I will bring forward, and have no doubt it will revive that interesting discussion.

Pontyberem, Oct. 12.

SCRUTATOR.

SWEETLOVE'S SYSTEM OF VENTILATION.

Sir,—The publication in the *Mining Journal* of Mr. Sweetlove's paper on the ventilation of mines—read before the Liverpool Polytechnic Society—will, I hope, provoke a further discussion, in your columns, on that important subject, and elicit from some of your numerous correspondents either a method of practically carrying out the plan in detail, or of clearly showing its impracticability, or inferiority to some of the present modes of ventilating mines. I could have wished the same paper had been read at Newcastle, amongst practical men, for the sake of learning the opinions of such men, which, one would hope, would there have been drawn forth. To me, I must confess, the accomplishment of Mr. Sweetlove's plan appears both difficult and expensive. It would seem that carburetted hydrogen is thought to be a gas, having but slight affinity, or not readily mixing with the atmospheric air in mines; and that, from its levity, it will accumulate in certain places (in the highest parts, I suppose), from whence, the pipes being once laid, it may be drawn off with as much facility as water may be pumped from the lowest places, by means of pipes, fixed for that purpose. To say nothing of the facts, that the highest points of a mine are daily changing, from the removal of the coal—that a great number of places are working at one time, giving out greater or less proportions of gas—the quantity greatly varying, at different times, in the same place, and, therefore, requiring a constant adjustment of the inlet into the numerous branch pipes, so that only the gas shall be withdrawn, and not sucking up a larger proportion of pure air in one place, and leaving behind a great volume of gas in another. But, generally, the gas will be found to exude from the fissures of the coal, and other places, in, I may almost say, an infinite number of places, and is soon intimately blended with the atmosphere—more like spirits mixing with water, than like oil, which, however intimately mixed, would shortly again separate, and float upon the surface. How, then, can any pipes, or other means, be applied to withdraw the gas pure from the mine? The only practical method of ventilation—in which, I think, all persons conversant with coal mines will agree—is to pass through the mine such a current of air as will dilute the gas considerably below the explosive point, in all the passages and air-courses where the men have occasion to go, or where they can, by possibility, get, and to wall up, and make air-tight, all old workings, or goaves, so that no pure air can circulate through them. This would contract the space necessary to be ventilated, and, in a short time, would render the air in the goaves non-explosive, either by its being composed of too large a proportion of carburetted hydrogen (exceeding 1 of gas to 6 of air, according to Mr. S.), or, as would, probably, be more frequently the case, by being mixed largely with carbonic acid gas. To accomplish such a ventilation, and to secure the close falling in of the roof after the coal has been removed, so as to reduce, as much as possible, the capacity of the reservoirs, or goaves, where the gas might accumulate—I say, the effecting this, in the most scientific manner, is the great point to be aimed at by practical men; and, I think, I shall carry with me the opinion of the great majority of such men when I state, that no pumps or mechanical appliances at the surface can circulate through a mine so large a quantity of air at anything like the same insignificant cost as a properly constructed furnace at the bottom of a pit. Within my own knowledge, by the trifling daily consumption of 15 cwt. of the smallest slack, 11,000 cubic feet of air are circulated per minute through an extensive colliery; and I do not adduce this as an extraordinary fact, but as a not uncommon occurrence. What sort of pumps would be required to accomplish this? But, Sir, my object in writing has been only to point out what appears to me practical difficulties in carrying out Mr. Sweetlove's plan, which I shall be glad if any of your correspondents can remove. I am afraid that, when all has been done that human ingenuity and skill can accomplish, accidents will occasionally occur, greatly destructive of human life, calling forth the sympathies of the public for the widows and orphans of a class of men who may be said to carry their lives in their hands, and stimulating the endeavours of scientific men to perfecting instruments for the safety of the workmen, and means for still further decreasing the numerous dangers to which they are exposed.—B. B.: Oct. 12.

ADCOCK'S SPRAY PUMP.

Sir,—In my communication to you of the 29th ult., I alluded to an anonymous calumniator, who, as I stated, was well-known here, and whose name was, in this district, a by-word for scorn and contempt. Upstart a Mr. James Brown, from the Tavistock Hotel, Covent-garden, and says—"I have been that anonymous calumniator, but I will be no longer anonymous—I throw aside the mask which I have worn, and I am now prepared, in my own name and person, to 'run a-muck' at all mankind; you, the hon. Member for Monmouth, shall be my first victim." Mr. James Brown then, accordingly, proceeds to assail me in a manner which must have convinced you, Sir, and your readers, how well qualified he is to conduct the calm and impartial investigation of scientific truth. If you, Sir, wish to have a rational and temperate discussion upon the merits of Adcock's Spray Pump, I have no objection to assist in it, and to afford every information in my power, truly and faithfully; but I decline to enter the lists of controversy with one who, from the most malicious motives, has distorted and misrepresented every fact connected with my operations at Lanhedid: who has nothing in the shape of experience, mechanical knowledge, or scientific acquirement, to bring to bear upon the discussion; and who would never, probably, have mooted the subject, but for the opportunity it afforded him of vituperating myself, and of making another attack upon the directors of the Victoria Iron Company—whom, for the last two or three years, he has been persecuting, in your paper, with anonymous libels, of the most wicked and malignant character.

October 13. REGINALD J. BLEWITT.

MINING IN THE INDIAN ARCHIPELAGO.

[The following are extracts from the two first numbers of the *Journal of the Indian Archipelago and Eastern Asia*, recently commenced at Singapore—the object of which is to afford a channel for communicating information, scientific, commercial, and personal, relating to the various islands of the Archipelago, more particularly the British settlements on the Straits of Malacca, and of the Malay Peninsula. The work is got up in every way superior to what we could have expected from such a part, and the contents are both varied and interesting.]

MINERALS IN COCHIN CHINA.—We do not find on the mountains a single volcano, either active or extinct; but, in many places, mines of gold and silver occur, which the natives do not know how to work. The Government itself employs means for working the mines which only discourage the workmen. Much gold, however, is collected from the sand of the mountains; this sand is thrown into the neighbouring river, and the current disengages the particles of gold, which are collected, but with much pain and fatigue. It is in this manner that they seek the gold in one of the mountains which are situated opposite to the harbour of Touron. But the principal mines of gold and silver are at Touking. Mines of iron, copper, lead, tin, and of zinc, are also found in abundance.

TIN MINES OF MALACCA.—The constantly increasing productiveness of the Malacca tin mines, renders them a matter of considerable interest. Many of the principal miners have retired, with competencies, to their native country (China). There are now about 60 mines, and some have been opened near the abode of the Jakans, who, instead of showing any hostile feelings, have been of essential service to the miners, by guiding them through the impervious jungle, to the streams and places where it is supposed the metal will be found in abundance. It is much to be regretted, that so much specie is annually taken out of the settlement by the Chinese, for transmission to their families in China. They are, after all, in one sense, unprofitable colonists; and I am glad to observe, that a spirit of emulation is beginning to show itself amongst the Malays, as a company of them, I hear, have been formed to work the mines.

GOLD FROM PANKALLANG BUKIT, AND GOLD AND TIN FROM GONGONG, ON THE JOHORE RIVER.—We lately received some specimens of gold from H. H. Sultan Ali Iskander Shah, and some others; with specimens of tin, from the Honourable T. Church, Esq., which had been furnished by H. H. the Taming-gong of Johore. They are all of excellent quality, and from limbonangs, or pits, which have been recently opened. The first is from a limbonang made in the alluvial soil, at the foot of a hill, and near a small stream, at Pankallang Bukit, which is about four hours (Malayan reckoning) inland from Tanjong Gading, a point between the mouths of the rivers Muar and Kiasing, in the north of Johore. The last are from Gongong, on the Johore River, in the south of that kingdom, and are fresh proofs how widely spread these valuable metals are throughout the country.

COAL FROM LABUAN, PULO CHIRIM, BORNEO, AND FORMOSA.—Some particulars are given of a series of specimens of coal from these localities, but only anticipatory of a more extended notice, taking a general view of the coal of the Archipelago, to which we shall allude when it reaches us.

IMPORTANT DISCOVERY OF A COAL FIELD.—The towns of Parkgate and Neston, Cheshire, were on Friday the scenes of considerable rejoicings, in consequence of the complete success which has attended the trials made to prove the field of coal on the Cheshire side of the Dee, on the property of the Hon. E. M. Mostyn, M.P. We understand, that an extensive field of coal of most excellent quality, and which, no doubt, is a continuation of the Flint and Bagillt coal fields has been proved. Should this be the case, Birkenhead will be enabled to derive from this newly-discovered field the extensive supplies of coal required for the use of that rising port, and for exportation, on far easier terms than from any other quarter.—*Globe*.

Mr. Negrelli, the Austrian civil engineer, is making preparations to leave Vienna for Egypt, to join the French and English engineers in the formation of the canal of Suez.

Mr. Alexander Brogniart, the celebrated mineralogist, died at Paris, last week, in his 78th year; he was director of the Royal Porcelain Manufactory of Sevres, at which he resided.

THE SILVER AND GOLD MINES OF THE NEW WORLD.

SECOND PART.—ON THE FUTURE PROSPECTS OF THE MINES OF AMERICA, COMPARED WITH THOSE OF EUROPE.—NO. VII.

If, instead of taking the total production, we take the annual extraction, the Russian Empire will appear in a much more advantageous position. At present, to speak only of gold: suppose the American production to be represented by 100, that of Russia is as 144. As the washings of Asiatic Russia are extending incessantly, and as the field in which they take place seems infinite, we are still far distant from the amount which will be attained. We must expect that shortly, through Russia, the general production of gold will approach the triple of what appeared at the end of the last century on the market of the world. This increase of the extraction must, after a certain delay, bring about a decline in price, because, unless there be a rapid development of wealth among the populations of countries, the means of employing this mass of gold would soon cease to be found, and the offer would thus exceed the demand. In other terms, in supposing that silver should remain at the same point with respect to corn, gold would not be worth more than 15, or 14, or 12 times its weight in silver. The relative value of the two precious metals (I do not speak of the absolute value, nor of the value in relation to that of objects of the first necessity), would approach what it was among ancient nations, or before the discovery of America. In another point of view, the decline in the value of gold could not sustain itself, except in so far as the cost of production should have diminished, for otherwise the production would stop; but when we think on the surprising progress which the mechanical arts make every day, we cannot doubt that the selling price of gold will undergo a reduction, provided the deposits remain the same. Thus the decline, if it should take place, would not be likely to lessen the extraction. Moreover, some time must elapse before a production of gold, even triple that of the commencement of the century, will cause an important reduction in the current price of that metal. The quantity of gold which exists among civilised nations is so great, that an annual addition of 40,000 kilogrammes, beyond what was ordinarily disposed of previous to 1823, would not rapidly augment the mass in a very sensible manner, and would not affect the value until after a certain delay. This is proved by the fact, that when, 25 years ago, England obtained a sum of more than 1,000,000,000 fr., representing 300,000 kilogrammes of pure gold, in order to coin gold money to replace bank notes, which alone had been in circulation since 1797, the price of gold was not sensibly affected in commerce. And then civilisation is in the vein for peace, which it may be believed that the senseless verbiage of retrograde passions will not induce it to abandon. By peace, easy circumstances and cultivation gain ground among the people—a little elegance and luxury introduces itself among all ranks of society. That is sufficient to secure an easy investment for a production of gold more considerable than that of the present day, without it being necessary for the extractors to occupy themselves with the decline in the value of gold. Before every person in Europe, male and female, shall have a gold watch, gold ring, or a gold cross, Siberia has sufficient margin left it. And why, with the aid of peace, should we not come to that?

Nor must we expect that gold will sustain a decline in value comparable to that which may be foreseen, with respect to silver, for a period still uncertain, unless some new El Dorado shall be discovered, in which the conditions of working shall be completely changed. The extraction of this metal does not afford ground for the same extensive improvements as the extraction of silver, which is barbarous in America, the principal centres of production. In this point of view, England, whose metallic specie is in gold, is not exposed to the same loss as France, whose real money is only in silver.

IV. PRODUCTION OF SILVER IN SPAIN.

On the old continent, Russia is not the only state which has increased its production of precious metals. The progress has been almost general among such of the European States as possess them. The success which Russia has obtained has been striking, incomparable. Nevertheless, it will be seen that some other nations have also made progress worthy of being cited. At the commencement of the century, Europe, without counting Russia (which we here take in its whole extent, both to the east and west of the Oural Mountains), yielded, in pure metal, 1300 kilogrammes of gold and 52,670 kilogrammes of silver. In 1835, the quantity of gold was about the same; but the production of silver was increased by about 15,000 kilogrammes. The production of gold and silver in Europe was, in 1835, as at the commencement of the century, concentrated in Germany, and in the lower part or the valley of the Danube—that is, to speak more precisely, in the Hartz Mountains, in Hanover, in those of Erzgebirge, which are divided among Saxony, Bohemia, and Prussia, in Hungary, and Transylvania—the last two countries, let us repeat, having pretty nearly the monopoly of gold. Out of Germany, and the valley of the Danube, there was not produced, in 1835, more than 10,000 kilogrammes of silver, of a value of about 2,000,000 fr., and from 20,000 to 25,000 kilogrammes of gold. Industry, which, since 1835, has taken a great extension in Europe, has paid more attention to the precious metals than it had previously done. At present, only little is wanting to make the production of silver double what it was in 1835. The principal cause of this development is, that Spain, which possessed important silver mines, formerly very celebrated, has again begun to work them.

The mines of gold, and particularly of silver, in Spain, have enjoyed great celebrity. Strabo, whose exactitude is better appreciated every day, states the fecundity of them. Long before him, the Prophet Ezekiel had signified it in his threatening prophecies against Tyre. The deposits of silver in the Peninsula were worked with success under the Moors, as under the Romans. Since the country has had more liberty, the working has been resumed, and, at the same time, the numerous beds of coal, with inexhaustible mines of iron, which Nature has placed in the Asturias, close to the sea, have begun to be worked with vigour.

The mines of lead, containing silver, situated in the kingdoms of Murcia and Granada, at a short distance from the Mediterranean, are those which formerly yielded, and still yield, a great quantity of silver. The lead, however, is not always associated with silver. The mines of Sierra de Gador, situated behind Almeria, which have yielded as much as 39,000,000 kilogrammes of lead, and which still yield from 13,000,000 to 14,000,000 kilogrammes, do not contain silver; but the mines which are behind Carthagena, particularly at Almazarron, and still more particularly those that are worked in a little vale, called the Baranco Jaroso, in the Sierra Almagrera, in the kingdom of Granada, have a yield of silver very remarkable, being 1 per 100 with respect to the lead. Having been successively visited by several very intelligent French engineers, the mines of the south of Spain were, in 1845, worked anew by M. Pernot, director of the mines of Pontlaun, in Brittany. According to this gentleman, the single mines of the Sierra Almagrera yield at present, at least, 40,000 kilogrammes of silver, and, consequently, the total extraction of the whole Peninsula cannot be estimated at fewer than 50,000 kilogrammes.

As to gold, the yield of the Peninsula is quite insignificant. It may, however, be considered probable that the extraordinary success of the washings of gold in Asiatic Russia will cause searches to be made for that metal in all the countries in which that was formerly done. Success exercises a fascinating power on the heart of man. The example of success sometimes gives rise to the most extravagant enterprises; and, for a stronger reason, it warrants attempts which possess tolerable chances of success. There would be nothing unreasonable henceforth in attacking, with the means which science indicates, and which Russia every day improves, the alluvions which were formerly renowned for the gold which they contained. There exist some, not only in the Iberian Peninsula, but also in France, at the foot of the Pyrenees, which formerly made a good yield, especially in the valley of the Ariège, in which the characteristic circumstances of the deposit of gold in Siberia appear to exist. Ireland is also quoted.

[To be concluded in next week's *Mining Journal*.]

CONTINENTAL RAILWAY LAW.—A SEVERE SENTENCE.—A rich farmer of Valby (Denmark), named Steensen, has just been tried at Copenhagen, for having attempted, by displaying a red pocket-handkerchief at the end of a stick, to stop a train running on the railway from Copenhagen to Rosthede. He acknowledged that he had displayed the signal as stated, but affirmed that he did so in consequence of a waggon entered into by him, after a copious breakfast seasoned with wine, that he should succeed in stopping the first train that appeared. Knowing that to display a red flag signified danger, he had waved his red handkerchief, as mentioned in the indictment. The court, finding him guilty, sentenced him to 10 years' hard labour in a house of correction, being the penalty laid down in the Danish law against any attempt to stop a railway train, or impede its passage. Steensen has appealed against this severe sentence.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

TUESDAY.....West Flanders Railway—London Tavern, at One.
WEDNESDAY.....Rock Life Assurance Company—London Tavern, at Twelve.
THURSDAY.....Independent Gas-Light and Coke Company—London Tavern, at One.
FRIDAY.....Trinidad Railway Company—London Tavern, at One.
SATURDAY.....Tamar Silver-Lead Mining Company—offices, at Two.
 Swansea Dock Company—offices, Swansea, at Three.
 Swansea Vale Railway—offices, Swansea, at Three.
MONDAY.....Alten Mining Association—offices, at One for Two.
 Great Wheel Marthas Mining Company—offices, at Twelve.
 North Wales Railway—Gulldhall Coffee-house, at Two.
TUESDAY.....West Wheel Marthas Mining Company—offices, at One.
 Charing-Cross Bridge Company—offices, at One.

[The meetings of Mining Companies are inserted among the Mining Intelligence.]

ROYAL MAIL STEAM-PACKET COMPANY.

The half-yearly meeting of this company was held at the London Tavern, Bishopsgate-street, on Thursday, the 14th inst.,
 ANDREW COLVILLE, Esq., in the chair.

Capt. CHAPPELL, R.N. (the secretary), read the following report:—

REPORT.

In placing before the proprietors the working account for the first six months of the current year, the directors have great satisfaction to observe that (looking at the general operation of the company's affairs), it continues to exhibit a satisfactory result. It is true that, owing to circumstances, many of which arose from temporary causes, the disbursements have been greater than in the corresponding half of last year, and that the surplus is less; but the total receipts show a steady increase, notwithstanding the deficiency in homeward freight, occasioned by smaller shipment of specie from Mexico, resulting from the unsettled state of that country. As relates to the increased disbursements, the directors have to offer the following explanation:—The proprietors are aware that the items in the semi-annual working account laid before them, do not exhibit the exact amounts employed in the half-year's service, but the sums expended in the half-year, although such expenditure may apply beyond the six months in question. The wages exceed those of 1845 by 1618*l.*, occasioned principally by an increase of 5*s.* per month to each seaman's wages; and by the progressive augmentation of officers' pay, according to the length of their services. Under the head of provisions there is an increase of 3872*l.*, owing to the necessity for putting a larger quantity on board the ships to meet the increased number of passengers. The excess of 1844 upon stores has arisen chiefly from the purchase of additional saloon furniture, renewals, &c., occasioned by the general repair of the *Terrier* and other ships; and by the few repairs required for the *Great Western*. The general service and stations exhibit an increased expenditure amounting to 3077*l.*, which arises from the hire of the schooner *Royal*, at Havana, to convey the Honduras mails for one trip, while the company's schooner *Lee* was hauled up on the patent slip for repair; by a subscription to the fund for relieving the widows and orphans of men who perished at the wreck of the *Twelve*; by the hire of vessels to convey the mails after the loss of that ship; and by expenses incurred in establishing the transit accommodation at Panama, Cruces, and Chagres, which alone amount to 1195*l.* There is an increase of 585*l.* under the head of salaries—say 516*l.* in London, and 69*l.* at Southampton; which the directors unanimously considered by the services performed. The ship's repairs show an increase of 4318*l.*, the greater part of which was for the *Reindeer* and *Larne* at St. Thomas; and expenses consequent upon shifting the boilers of the *Acorn*, &c., at Southampton. There has been a reduction during the same period upon engine repairs amounting to 756*l.* Referring, on the other hand, to the receipts from passengers and freight, the proprietors will be gratified to observe that there is an increase under every head, except homeward freight, the falling off in which has been already mentioned. The measures adopted to promote the transit across the Isthmus of Panama gradually producing the desired effect. Since the end of March last many passengers have passed by that route, and there have been shipments of specie by each packet, the amount of which seems steadily on the increase. Intelligence of the loss of the *Twelve* was received by the directors on the day of the last general meeting, when the circumstance was briefly adverted to. It is now necessary to state that the place of that vessel has been supplied by the purchase of the *Great Western*, a strong sound ship, which is required for the company's service. Having made a good voyage to the West Indies and the Gulf of Mexico, the ship is now in dock at Southampton, taking on board a new set of boilers, and undergoing some indispensable alteration, which will probably be completed before the end of next month, when she will, it is expected, be as efficient for years to come, as any other of the company's Atlantic steamers. The directors are much gratified to add, that they have been enabled to effect this desirable purchase, and to complete all the payments for the hull, machinery, and outfit of the *Cowsey*, new inter-colonial steam-vessel, amounting together to about 40,000*l.*, out of the ordinary means of the company, without diminishing the insurance fund of 74,261*l.* 5*s.*, in 3*d.* per cent. Government stock, or any other investment. The Lords Commissioners of the Admiralty, according to the authority given to them by their contract with the company, have been pleased to order an alteration of the packet routes, to commence on and from the 2d of next month, which will establish a steam communication direct, once a month, between Southampton and New Orleans. It would be premature at present to discuss what may be the result of this change, either as relates to the public or to the company; but it can be no question, that it has been determined upon after much consideration, and the utmost efforts of the company will be exerted to give effect to the views of her Majesty's Government upon the subject. Looking at the general state of the company's affairs, the directors feel gratified in proposing (as before) a dividend of 1*l.* 15*s.* per share, exclusive of income-tax, the same to be payable on the 30th inst.

The balance-sheet was read, from which it appeared that the company's receipts, for the half year, amounted to 198,371*l.* 2*s.* 10*d.*; and the expenditure to 155,967*l.* 11*s.* 8*d.*—leaving a surplus of 42,403*l.* 11*s.* 2*d.*

The CHAIRMAN having moved the adoption of the report,
 Mr. RIDGWAY made a speech, in which he touched on the salaries paid to the officers of the company, considering them extravagant, and as tending to give the proprietors a less dividend.—The CHAIRMAN defended the course pursued by the directors, and said that the 200*l.* gratuity to Capt. Chappell had been for services rendered by him in remodelling the new contract with the Government. (Hear, hear.)

Mr. RIDGWAY, after some further observations, proposed, as an amendment, that the gratuity to the secretary be disallowed, and that the dividend be increased from 1*l.* 15*s.* to 2*l.* per share.

The CHAIRMAN, in reply to the statements of Mr. Ridgway, said, the wines supplied by the company in the boats were of the very best quality; and, unless it were so, there would be no end to complaints, for it was paid for by the passengers, in addition to their passage-money. The change of route, by way of New Orleans, would, in his opinion, ere long, prove profitable to the company, as people would get in the habit of coming to Europe, without going round by New York. (Hear, hear.) As to the salaries, he justified the course the directors pursued, which was of increasing them only as the clerks advanced in life and the service of the company. The directors, in his opinion, could not increase the dividend beyond what had been recommended.

The amendment of Mr. Ridgway was then put, and negatived by a very large majority.—The CHAIRMAN then put the adoption of the report, which was seconded, and carried by the meeting.—A vote of thanks to the chairman and directors was then passed unanimously, when the meeting adjourned.

PRICE'S PATENT CANDLE COMPANY.

An extraordinary general meeting of this company (a concern in which two of the present, and one of the late, partners of the house of Cockerill and Co. are directors) was held, on Wednesday last, when a report was presented, stating that owing to Messrs. Cockerill's suspension, it would be for the advantage of the shareholders to defer the division of the profits which have accrued since the 1st of January. It appears, that in purchasing the patent rights of Messrs. Price and Co., the company—under whose direct control the working of the establishment was not taken until May last—contemplated making their payments by instalments (allowing Price and Co. 5 per cent. upon such sums as might remain unpaid, and also for such portions of their capital as might continue to be employed in the business); but the resources of this firm having been strained by Messrs. Cockerill's suspension, it has now been thought best to postpone the contemplated division of profits until December next, when it may be made without inconvenience. In accordance with this recommendation, a dividend of 1*l.* per share, out of the profits to the present date, being at the rate of 20 per cent. per annum on the paid-up capital, was agreed to, the same to be payable on the 31st of December next. The forfeiture and reallocation of 325 shares, standing in the name of Sir G. Larpent, and of 1825 in the name of Mr. John Cockerill, upon which the calls have not been paid, was also resolved upon. As regards the former gentleman, however, the report of the directors contained the following paragraph, which will be read with gratification:—"The directors have been happy to learn, since the insertion of the advertisement convening this meeting, that Sir G. Larpent intends to remain in London, and hopes to retain his seat at the board."

DEMERARA RAILWAY—The first half-yearly meeting was held on Monday.—M. MCILLEVY in the chair.—The report spoke favourably of the progress of the line: land had been secured at Georgetown for the principal terminus, and the ceremony of turning the first sod was performed on the 19th of August last, by his Excellency, Governor Lyle. It is expected that within six months the first few miles of the railway will be opened for traffic. The accounts from the commencement up to the 30th September, showed the receipts to have been 68,138*l.* 14*s.* 10*d.*, the expenditure 52,485*l.* 14*s.* 7*d.*, and the balance 15,708*l.* 0*s.* 3*d.* An immediate call of 2*l.* 10*s.* a share was ordered. After some little discussion as to the payment of 1500*l.* a year to the directors (which was objected to by Col. Warren), the report was adopted, and the meeting separated.

GREAT NORTH OF INDIA RAILWAY—An adjourned meeting of proprietors was held at the offices, Coleman-street-buildings, on Thursday, for the purpose of declaring the dissolution of the undertaking, and returning the balance in hand.—Mr. H. BORRADAILE was in the chair—and about a dozen shareholders were present. It appeared, from a short report presented to the shareholders by the directors, and from a statement of accounts, that the receipts from October, 1845, to 30th September, 1847, amounted to 11,590*l.* 9*s.*, and the expenditure during the same period amounted to 46,667*l.* 9*s.* 8*d.*, leaving a balance on hand of 46,667*l.* 9*s.* 4*d.* The liabilities were stated at 520*l.* The report recommended—first, the dissolution of the company; secondly, the return of 1*l.* 8*d.* per share. These recommendations were formally adopted, and the meeting broke up.

BERLIN AND COLOGNE—This line was to have been opened throughout yesterday (Friday the 15th), after which passengers would be able to travel between the cities in 24 hours, and in about 48 hours from Berlin to Paris direct. The expense from the Prussian to the Parisian capital will be 20 thalers.

Since the opening of the atmospheric railway from Paris to St. Germain, they have found round the large cast metal tube, chiefly in that part under the tunnel to the viaduct, an immense number of dead toads. Some chemists, being desirous to discover the cause of this mortality, have found the paint in the tube has a singular property of attracting these reptiles and poisoning them. They are, in many localities, a complete scourge; and the means of destroying them may not be unacceptable. This composition, or paint, is formed of 40 parts of sulphate of lead, and 60 parts of glue, which is composed of 45 parts of white creosote oil, 15 of gum lacque, and five of caoutchouc. In the rural districts, this might be used with great advantage by agriculturists in painting their fences.

BOULOGNE AND AMIENS RAILWAY—The general meeting of the French and English directors of this railway, which is appointed to be held at Paris, on the 30th inst., is looked forward to with great interest by English shareholders in French and continental railways. Many complaints are made by those on this side the Channel, at the apparent delay in the completion of the whole line from Boulogne to Amiens, the section from Abbeville to that city as yet being only open to traffic, which is a considerable loss to the company. The South Eastern directors have offered free tickets from London by their line, and steamers from Folkestone to Boulogne and back, to those shareholders in the Boulogne and Amiens Railway, who intend to be present at the general meeting in Paris, which complaisance will, no doubt, be duly appreciated.

EXTENSION OF THE SOUTH WESTERN RAILWAY—Yesterday, the plinths of the arches crossing the Westminster-bridge-road and Lambeth-road were completed, and the arches turned over Homer-street, Allen-street, Carlisle-street, and Lower Marsh, Lambeth, completing the viaduct to the proposed Waterloo terminus in the York-road. The entire length of the surface of the viaduct has been covered with a thick coat of Clardge's seyal asphalt, rendering the arches beneath perfectly dry and warm—it being the intention of the company to convert them into dwelling-houses, shops, &c. This extension will open for traffic in the ensuing spring; and on Monday the demolition of the houses for the London-bridge extension commenced.

GREAT NORTHERN AND AMBERGATE AND NOTTINGHAM RAILWAYS—We understand, that the amalgamation of the Ambergate and Nottingham with the London and York Company was fully discussed at a meeting of the directors of the former company at Nottingham, on Wednesday last, when it was unanimously resolved to submit a copy of the terms of the proposed merger to every shareholder, and soon after to summon an extraordinary meeting of the proprietors, to finally dispose of the question.

A contract, we understand, has just been made for the relaying and adapting for locomotive steam-power the Ardrossan Railway, from Eglinton Iron Works to the Perceps Branch Railway, the latter of which, some time ago, was rendered fit for locomotives; also for forming a railway from Corsehill to Kilwinning, to intersect the Kilmarnock branch of the Ayrshire Railway, forming part of the Glasgow, Kilmarnock, and Ardrossan Railway. Mr. H. King, of Motherwell, Lanarkshire, is the contractor.—*Ayr Observer*.

The Warsaw and Cracow Railway will be opened on the 1st November next. A splendid carriage has been built for the Emperor, at the cost of 120,000*fl.*

NEWCASTLE AND CARLISLE RAILWAY—GOOD EXAMPLE.—This company having some time ago made a call, has just issued an announcement postponing its payment until the money market shall be more propitious.

BIRMINGHAM, WOLVERHAMPTON, AND STOUR VALLEY RAILWAY—The directors in this line assembled on Monday, at their offices in Birmingham, for the purpose of receiving tenders for contracts for the works from Winton Green to Oldbury, and from thence to Dudley, the whole being a distance of about eight miles. From 15 to 20 tenders were sent in, but it was resolved by the board that the opening of them should be deferred for a month.—*Midland Counties Herald*.

BRECON AND ABERGAVENNY—A staff of engineers and surveyors is now occupied in making a survey of this line, preparatory to an intended application to Parliament next session. It appears that the line has been taken up by the Newport and Abergavenny Company, under whose auspices the survey is being made.

CHESTER AND HOLYHEAD RAILWAY—We understand that a private opening of the line from Chester to Conway, took place on Thursday last. The directors, Mr. King, the secretary, Mr. Glynn, M.P., chairman of the London and North-Western, Mr. Creed, the secretary, and Capt. Haish, the manager, were among those who passed over the line. The trip was strictly private. It had been intended, we believe, to float Mr. Stephenson's gigantic bridge, which is to be suspended over the river at Conway, but we understand that this interesting event is postponed for a fortnight.

THE MIXED GAUGES TO CHELTENHAM—The opening of the double gauge line from Gloucester to Cheltenham will take place, we are informed, to-day, or Monday next. The event is looked forward to with much interest in the railway world, as it will set at rest the long-discussed question of the practicability of the two gauges on the same line of railway. The broad gauge party are very confident of its success, while the other side as confidently predict its failure.

RAILWAY TRAVELLING PORTERS—Our readers will recollect that we, last week, published a circular from Mr. Seymour Clark, stating that an officer, under the above title, to be selected from the other porters for his good conduct, would be appointed to keep a look out behind on the express trains of the Great Western Company. It appears that these men are so elevated above the train, that they find it impossible to withstand the cold, and other inconveniences, to which they are exposed, and that three or four of them have already resigned the situation.

NEW RAILWAY CARRIAGE—An improved railway carriage has just been constructed by Messrs. Adams, of Fairfield Works, Bow, for the North Woolwich branch of the Eastern Counties Railway, to meet the increased traffic, without lengthening the train. The carriages are 40 ft. in length and 9 ft. in width—the extra width being gained by building the carriage frames to the width of the ordinary stage boards. Notwithstanding their length, these carriages will have a curve of 200 ft. radius, by means of the flexibility and arrangement of the springs, which permit the wheels to traverse laterally. The carriages are fitted up in five compartments; one first-class with couches all round, and a table in the centre; the other three second-class. They will carry about 110 passengers.—*Chesham Chronicle*.

VALE OF NEATH RAILWAY—We rejoice to find, that this railway is progressing with much activity. There are about 150 men engaged on the two contracts, taken respectively by Mr. W. Hopkins and Mr. Bevan. Mr. Grant, of the Groll, and Mr. E. Vaughan, of Rheola, the chief landowners on these contracts, have kindly given possession of their land; and thus no delay will arise. We shall be glad to hear of the heavy works near Merthyr Tydfil being contracted for. We trust the directors will use their best exertions to complete the line with the least possible delay, as it must prove a most desirable object to the vast population of "The Hills," Merthyr, and Dowlais. A meeting of the directors was held at Neath, on Thursday last, at which several matters of importance were taken into consideration, with the laudable view of forwarding the works.—*Merthyr Guardian*.

MR. STRUVÉ'S ATMOSPHERIC RAILWAY—We understand that, at the last meeting of the Swansea Literary and Scientific Society, a paper was read by Mr. Struvé, civil engineer, of this town, on an invention which he has very recently patented, for propelling railway carriages on an atmospheric plan. We never remember to have seen a more elegant yet simple application of a trifle law in physics. The old pneumatic law, developed since the days of Galvano and Torricelli, in this beautiful invention of Mr. Struvé, is rendered available, with remarkable certainty, to railway purposes. The model for an atmospheric railway, exhibited by Mr. Struvé at the meeting of the society, seemed to us to be only a natural continuation of the principal involved in the construction of the ventilating machine, patented by him about 12 months since. This last exhausting machine is an essential part of his new atmospheric railway combination. The principle of atmospheric pressure is most ingeniously brought into operation. A closed *viaduct* (as we may venture to describe it), in which the train runs, is attached to the exhausting-engine, which, by means of a simple contrivance adapted to the foremost part of the train, is enabled to withdraw the air from that portion of the *viaduct* intervening between the train and the engine—thus creating a tendency to a vacuum, and bringing into a regulated activity the law of atmospheric pressure, in obedience to which the train is propelled in the direction of the exhausting-engine. We forbear to enter into further descriptive details, since we trust that this will soon be done by Mr. Struvé himself. It remains for us at present only to add, that we feel proud that this useful and important invention has originated in our town. We know not a higher grade of merit than that which belongs to the man who reduces the everlasting laws of Nature to the purposes of art, and utilizes in the cause of man's daily wants the established principles of science. With this inventive genius, Mr. Struvé is eminently gifted.—*Comorian*.

THE HARTLEPOOL LIGHTHOUSE—The experiment of employing gas for lighting this lighthouse has been made, and the result has been completely successful. It is the first lighthouse on a large scale and of any great importance that has yet been lit in this manner. Some small lighthouses on piers have certainly been thus lit before, but no lighthouse of such importance to navigation. The burner employed was constructed by Messrs. McNeil, of St. Martin's-lane, who were employed to carry the new mode of lighting into effect. The power and brilliancy of the light was tested by several captains and persons connected with the harbour going out to sea, and their report was very favourable. The substitution of gas for oil will reduce the expenses about half, and will remove the danger said to arise from the lamp with concentric wicks, which requires constant attention and considerable judgment in the management. There has hitherto been considerable difficulty in adapting gas to lighthouses where a single large light is required, for the only burners which were large enough to give sufficient light burned with so unsteady and irregular a flame, that they were unsuitable to the optical apparatus employed to concentrate the rays. These difficulties have been overcome, and a most desirable end attained.

THE PATENT SAFETY FUSE.
 FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR HURMAKING OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDIENT MODE of effecting this very hazardous operation. From many testimonials to its accuracy with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this." Manufactured and sold by the Patentees, BICKFOLD, SMITH, and DAVEY, of Exeter, Cornwall.

PATENT GALVANISED IRON AND WIRE ROPE WORKS.

MILLWALL, POPLAR.

ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process galvanizing wire rope, adding only 2*l.* 10*s.* per ton instead of 3*l.* 10*s.* under the ordinary process. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging.

CUNNINGHAM & CARTER'S PNEUMATIC RAILWAY SYSTEM—The attention of the scientific public is requested to this SYSTEM, which unites great simplicity with economy, and is entirely free from those dangers and consequences which are the inseparable attendants on the use of the locomotive engine. The MODEL may BE VIEWED, and every information given, on application to Mr. Cunningham, Auction Mart Coffee-house; or Mr. Carter, engineer, Park-hill, Sydney.

TO ENGINEERS, RAILWAY AND STEAM-BOAT COMPANIES, AND THE OWNERS OF STEAM-ENGINES IN GENERAL.

W. & C. MATHER beg to call the attention of the above parties to their PATENT ELASTIC METALLIC PISTON.

From the great satisfaction it has already given, they can, with confidence, recommend it. The following are some of its excellent properties:—

1. The great, equable, and mild elasticity: its being perfectly cylindrical and self-adjusting—thereby enabling it to yield, with the least possible friction, to any inaccuracies of the cylinder, whether oval or taper.
2. Its extreme simplicity and lightness—the packing consisting of ONLY TWO PIECES OF METAL, having vertical and horizontal elasticity in due and proper proportion, independent of each other—the horizontal elasticity being also independent of screwing down THE JUNK RING OR COVER.
3. It takes the least possible space; and is, therefore, well adapted for air and water pumps.

The above patent was unsuccessfully opposed by Mr. Goodfellow, the patentee of a piston, having three *expansive rings*, of a bell form.

The Solicitor-General conceived that there was not the slightest similarity between them, as may be seen from the subjoined letter from Mr. Cargmael, through whom the patent was taken.

W. and C. M. can refer to upwards of 100, made since the date of the patent (April, 1846), each of which is giving entire satisfaction. They beg to call attention to the fact, that, in a number of cases, they have replaced those made of three *expansive rings* of the bell form, a description of which appeared in the *Mining Journal* of Saturday, October 2, 1847.

[LETTER REFERRED TO.]

DEAR SIR.—Mr. Solicitor-General took the hearing in your patent yesterday, at the Privy Council, and decided that the invention did not *interfere*; we are, therefore, proceeding with the patent. We are, your obedient servants,
 Messrs. Mather. POOLE & CARMICHAEL.

The object of publishing the above letter, is to convince parties wishing to use W. and C. Mather's piston, that they have nothing to fear from the caution which accompanied the advertisement referred to, or the unfounded reports which are industriously circulated from the same quarter.

Locomotive and other pistons guaranteed for twelve months.
 Salford Iron Works, Manchester, Sept. 1847.

TO ENGINEERS AND BOILER-MAKERS.

LAP-WELDED IRON TUBES, FOR MARINE AND LOCOMOTIVE STEAM-BOILERS.

TUBES FOR STEAM, GAS, AND OTHER PURPOSES. ALL SORTS OF GAS FITTINGS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE, MANUFACTURE BOILER AND GAS TUBES, under an exclusive License from Mr. R. Prosser, the patentee. These tubes are very extensively used in the boilers of marine and locomotive steam-engines in England and on the Continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and warranted not to open in the weld.

42, CAMBRIDGE-STREET, CRESCENT, BIRMINGHAM. WORKS—SMETHWICK, STAFFORDSHIRE. LONDON WAREHOUSE—No. 56, UPPER THAMES-STREET.

IMPROVED LIFTING JACKS, IMPROVED RATCHET JACK, HALEY'S PATENT LIFTING JACK.

MANUFACTURED BY W. AND J. GALLOWAY, PATENT RIVET WORKS, MANCHESTER.

* The attention of parties who employ

Lifting Jacks,

is respectfully requested to the superiority of those annexed, over those hitherto in use.

OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN, J. MURDOCH (successor and sole assistant to Mr. Robert)

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Assurances for terms of years are granted on the lowest possible rates.

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 45 to 95 per cent. on the premiums paid on policy effected on the profit scale.

EXAMPLES.

Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
£1000	£100	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
		1838	192 3 0	87 1 4	13 10 2	395 11 1
		1839	165 11 10	74 1 9	11 3 1	346 3 3
		1840	116 7 6	54 10 10	7 18 10	296 18 4
		1841	111 6 8	49 10 0	7 10 4	247 4 8

The division of profits is annual, and the next will be made in December of the present year.

F. FERGUSON CAMROUX, Secretary.

MARKWICK'S PATENT CHEST PROTECTORS.

This season a TRAVELLING CHEST PROTECTOR, to wear over the shirt, was introduced; and, as it must meet with general patronage, the attention of holders and haters is called to these valuable articles: they are also well adapted for ladies wear, under a shawl, during damp or piercing cold weather.—MARKWICK'S IMPERMEABLE PELINE is invaluable in cases of gout, rheumatism, the colic, sore throat, cold, and also hot feet and hands, &c. Socks, gloves, knee caps, head caps, throat protectors, &c., are made from this material, from which any other article may be had, according to the order of the medical or surgical adviser.—Mr. ALFRED MARKWICK'S NEW WORK "ON THE SKIN," just published by the Patent Epithum Company, price 9*s.* 6*d.* may be had of all respectable chemists in every town in England.

32, KING WILLIAM-STREET, CITY.

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October 16, 1847.

* It will at all times save much delay and inconvenience, if communications are directed simply

TO THE EDITOR, Mining Journal Office,

33, FLEET-STREET, LONDON.

And Post-Office ORDERS, &c., must be made payable to WILLIAM SALMON MARWELL, as acting for the proprietors.